

TEXTILE BULLETIN

Vol. 54

March 24, 1938

No. 4

INSTITUTE FOR RESEARCH IN SOCIAL SERVICE
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Under the Trip Hammer
of Rising Costs of
Doing Business
the Mill
with Slow Speed Looms
Can't
Stand the Pressure
It Cracks Up



But the Mill
with
High Speed Looms
Can
Stand the Pressure
and Break the Force
of Mounting Costs

It Has a Present
and a Future

Periods of Profits in Textiles are Short
But Good While They Last
Get Your Mill Ready for the Next One
Install Draper High Speed Looms

DRAPER CORPORATION

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ANNOUNCING
SOMETHING NEW IN WARP SIZING

DRY
AHCO SIZE

FOR BETTER WEAVING . . . A NEW
***SYNTHETIC WARP SIZING IN DRY FORM**

*PATENT APPLIED FOR

**TRIAL LOT
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**AHCO
PRODUCTS**

ADVANTAGES:

- 1. MAKES BETTER WARPS**
(a.) Less Shedding (b.) No Foaming
- 2. COSTS LESS TO USE**
(a.) Highly concentrated (Less required)
(b.) Lower Transportation Costs
(c.) No Waste (Clean Floors, Pipes and Kettles)
- 3. EASY TO HANDLE**
(a.) Dry Form (b.) Convenient Packages

Arnold-Hoffman & Company, Inc.

Established 1915 . . . Plant at Dighton, Mass.

PROVIDENCE, RHODE ISLAND

NEW YORK

BOSTON

PHILADELPHIA

CHARLOTTE



A Community With Its Industries

By Henry P. Kendall, President and Treasurer

The Kendall Company

I WANT to think with you for a few minutes about the subject, "A Community *With Its Industries*."

You may not live in an industrial town. You may have your home in a purely residential community. You may live on a country hillside, or on the great plains where life goes quietly on without the clangor commonly associated in our minds with the word "industry." Whatever the familiar pattern of human lives and activity which, to your mind, means "Community," there is nevertheless a vital connection between your community and industry. Your attitude toward that relationship is of great importance to yourself and to your family.

Industry is not a thing apart. It has grown along together with every other part of our common life. It contributes to that life and it draws from it. The conditions of life are today complex where once they were simple. Industry today is not directly under the eyes of the people, even in the communities where it operates. Once upon a time, it was. Benjamin Franklin tells us in his autobiography of taking his father's hand and strolling through the streets of Boston to see the "industries" of that day. By merely stepping through a door, young Franklin saw "industry"—the tallow chandler, the shipwright, the blacksmith, the carpenter, the printer. With his own eyes he was able to appraise the condition of work, the nature of tools and their uses. With ease and directness he could talk with those engaged in the various industrial occupations.

Since Benjamin Franklin's time, industry has become vastly larger and more specialized, and the clear, simple contacts of the community of the Eighteenth Century with its industries are no more. Yet the human *essence* of the relationship of the community with its industries remains. Industry's citizenship in the community today is not confined to the master craftsman and an apprentice, but is vested in thousands of workmen, in technical experts and engineers, in research laboratories, in executives, in salesmen traveling up and down the land, in customers, in suppliers of raw material. The interests of all of these people are closely interwoven one with the other and with the community. The effect of their various efforts must coordinate in such a way as to keep the particular business in which they are engaged a *going concern*. As long as it is a going concern, it creates sustenance for the community. It affords means of exist-

ence, indirectly, to merchants, professional men, people working in insurance and in real estate, and to countless other men and women in other lines of activity.

Think of industry, I beg of you, as a *living thing* and not as just a chance assortment of mechanical parts which can be juggled and torn apart at will. Industry is like a tree which has grown slowly and steadily; with many branches; with roots firmly into the earth. There may be decay in the tree, but the presence of decay must not obscure the far more important fact that there *also is life*. And the way to treat decay is not to damage the tree so that the life no longer can flow.

On the part of the community, there is an attitude and there are ways of dealing with industry which tend to build and there are likewise an attitude and a way which tend to destroy. In the exercise of either a *constructive* or a *destructive* course toward its industries, the community and the citizens of the community actually are affecting themselves. Industrial welfare and community welfare are interdependent.

Just as the community has an obligation, rooted in self-interest, to deal with its industries in such manner that they may continue and grow, so has industry a responsibility to be a helpful part of the community. That sense of responsibility of industry toward its community has been the pride of American industrial management and the envy of every country in the world, as have our standards of living. The fact that there are managers of some few industries who offend humanity and common sense in their community relationships has been given a great deal of emphasis. *Surely it is time to place the major emphasis on the humanity and the good citizenship of the great majority.*

Through this land, you will find cities and towns which have grown up around some industry or group of industries. Occasionally you find such a community neglected by those who helped to build it and its industries. But in the main you will find that in *our* country there has been a high sense of loyalty to the community on the part of industrial founders and managers, active leadership and vigorous participation in all movements designed for community upbuilding. The leaders of our industries continue to recognize their obligation. They see clearly the vital character of their community relationships, and

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Detergents

and their Application to the Textile Industry*

By J. B. Crowe

DETERGENTS cover a wider field than many people think, including as they do both soap and alkali. In discussing "Detergents and Their Application to the Textile Industry," we will confine ourselves to soap.

Soaps are divided into three classes:

a. Soluble soaps.

b. Insoluble or metallic soaps.

These soaps are usually trouble makers, and will be referred to only insofar as they can be reduced or avoided and troubles from them minimized or eliminated.

c. Synthetic detergents or soaps.

Rather than give actual methods of applying soap to textile processes, we will consider soap from the usage angle which may stimulate you to inquire critically, "What is soap? Do they all behave alike? And if not, why not? Am I using soaps which are best suited for my processes? Should I be using synthetic detergents? and finally, Why do detergents clean?"

First, in establishing "What is soap?" most chemists define soap as a salt of a fatty acid. However, this definition is not strictly correct for our purpose, because not every salt of a fatty acid—even though a soluble salt—has the detergent, emulsifying and surface tension lowering properties, etc., which are so essential in textile processing.

Ten years ago, most textile soaps were made from basic oils and fats such as tallow, palm, olive or red oil, either alone or blended together. From the soap's analysis and fat characteristics, it has been thought that one could predict quite well how soaps should perform. Today, due to a variety of conditions, the situation has changed. For example, the war in Spain has demoralized the olive oil market; the drought and the tax which was put on imported tallow, palm oil, coconut oil, etc., have made necessary an extensive search for new oils and fats. Chemists and purchasing agents have gone to the far corners of the world—Algeria, China, Australia, South America, Hawaii, and have brought back samples of leaf, root, animal, berry, nut and bean to be studied by research chemists and developmental engineers. Some of these stocks were unsuitable for soap; others, by proper pressing, refining, distillation and modern hydrogenation processes, etc., make good soap. As a result, new names were added to palm, coconut and olive, such as babbassu, yucuhuba, soya and sesame.

It is true that the oils and fats which are used for making soap contain, in general, the same type but different proportions of solid, hard fats and liquid oils. The solid, hard fats, are mostly stearic and palmitic, occasionally

some iso-oleic and myristic acids. The liquid oils are largely oleic, and varying amounts of linoleic and linolenic acids—the last two mentioned oxidize rapidly and are frequently responsible for odor, sticky feel and discoloration.

Now, if all fats and oils behave alike, it would make absolutely no difference what blend was used in making any soap. Unfortunately, oils and fats are like people—they have similar characteristics, but differ widely in their behavior.

As examples:—

1. If oils containing large amounts of linoleic and linolenic acids are used in making the soap, odor and discoloration troubles may result.
2. The efficiency of soaps made from the fatty acids present in oils and fats is dependent to a great extent upon the operating temperature. Soaps made from hard fatty acids, such as stearic and palmitic, both of which are present to about 50 per cent in tallow and palm soaps, are insoluble and therefore worthless as soaps at low temperatures. On the other hand, fatty acids, such as lauric, of which coconut oil contains an appreciable amount, is readily soluble and a prolific sudser. However, as the temperature increases, soaps made from stearic and palmitic acids increase in solubility, detergency and soap-like properties, while soap made from lauric acid loses its sudsing power and has reduced surface tension lowering ability and other soap-like properties.
3. Soaps made from fatty acids have excellent soap-like properties if used alone under some given operating condition. When soaps made from fatty acids are blended together in certain ratios, their soap-like properties improve; yet in some other ratios, these properties may be reduced.

Therefore, even though soaps made from different blends of oils may have identical fat characteristics, this does not mean that they will necessarily produce the same results when used under textile plant operating conditions.

As an example, let us consider a soap having the following fat characteristics:—Titer 20.4; Iodine Value 84.2; Sap. No. 202.0. With the exception of the saponification value which is slightly high, these characteristics match olive fatty acids closely. However, such fat characteristics could likewise apply to a blend consisting of 20-25 per cent palm oil, 50 per cent red oil, 20-25 per cent sesame—or to an inconceivable number of other blends of oils and fats. But the question is, "Will soaps made from all these blends work the same in textile mills

*Presented at Annual Meeting of A. A. T. C. C.

considering solubility, sudsing power, scouring efficiency, surface tension lowering ability, rinsibility, and protection against odor troubles and discoloration of the fabrics?" They decidedly will not! The same holds true of high titered soaps whose fat characteristics have been duplicated.

Even anhydrous or real soap is not a sure guide as to processing value of a soap. Some soaps that analyze 92 per cent real soap will not be as efficient as those which analyze 88 per cent real soap. This also goes back to the ratio and type of fatty acids present in the soap. Whereas real soap is an indication of the amount of soap present, it is not always a true criterion of the soap's efficiency.

Then, too, impurities may be present in the oil stocks and not be removed in the course of manufacture. Some impurities are inert; others accelerate rancidity development. Since, it is impossible to rinse out all the soap in processing, if a soap does contain impurities, it may turn rancid resulting in objectional odors and discoloration of the fabric. Therefore, impurities, too, are dangerous when left in a soap.

By this time, you might have formed the impression that there is no true guide as to what kind of soap to use. Nevertheless, the picture is not as hopeless as it seems. Research work has been carried on investigating such things as methods of refining to eliminate impurities in soap stocks, to protect the soap against rancidity troubles and to select oils which can be blended together and in correct ratios to give the best results.

Therefore, when selecting a soap for textile process, consider these points:—

First—Do not use soap made from unprocessed oils or fats containing appreciable quantities of fatty acids like linoleic or linolenic, regardless of the soap's detergent efficiency.

Second—Since processing temperature plays a big part in determining the value of a detergent, to get best results use a soap that performs most efficiently at the operating temperature. This choice, of course, is tied up closely with selecting a soap made from oils and fats so blended as to have the correct ratio of fatty acids. This produces a soap that gives the best results under your particular conditions.

In view of the wide range of conditions met with in mills, there will probably never be any one soap which is outstandingly superior for each and every textile process. By the same token, probably none of us will see the day when all operators agree that one type of soap will do all jobs equally well. Nevertheless, the swing to the lower titered soaps for an increasing number of processes is of decided importance. When made from carefully selected and properly blended oils, low titered soaps have unique, desirable characteristics which make them suited for the bulk of textile processings. Operators have demanded soaps with greater solubility and rinsibility, etc. And the logical answer has been low titered soaps. Because these soaps contain a far greater proportion of liquid oils than do the higher titered soaps, they have the following advantages:

1. Greater solubility, making it possible to prepare more concentrated solutions which remain fluid

even at low temperatures and do not gel like higher titered soaps such as palm and tallow. Greater solubility can be translated into a more efficient use of soap by the installation of a circulating soap system to bring the soap to fulling mills, washers, and soapers, etc., from a central dispensing system.

2. Faster rinsibility and at lower temperatures.
3. Greater mildness of action, because of the lower degree of hydrolysis. This is particularly important in processing synthetic and animal fibers.
4. More stable fatty acid emulsions with the added protection against oily deposits on fabrics.
5. More finely dispersed hard water soap curds, thus tending to prevent trouble from odor, spots, streaks, etc.

However, it has long been recognized that even the best of soaps have some serious drawbacks. The most outstanding of these has been (a) the decomposition of soap in an acid solution and (b) soap's reactivity with calcium (lime) and magnesium salts in hard water to form sticky, hard water soap curds. These lime soaps have no detergent action, attach themselves to fabrics and cause odor, blotches, streaks, dull colors, and many other difficulties. These disadvantages led to the development and the now accepted use of the synthetic detergents such as the fatty alcohol sulfates.

Synthetic detergents are considered a recent discovery. This is not accurate for as early as 1913, Reychler reported that cetyl sulfonic acid and sodium cetyl sulfonate possessed soap properties. During the World War, when Germany was so short of fats, Willstatter discovered perhydro naphthyl methane benzene carboxylic acid sodium salt, having hydrogenated rings, possessed soap-like properties. In England in 1923, Adam found that cetyl benzene sulfonic acids are soap-like and make soap gels, although the sodium salts are non-soap like. In Russia a different type of ring compound—a naphthenic acid—which has long been used and although possessing a bad odor, is not considered too objectional.

This brief historical background shows that long before the influx of synthetic detergents, which started around 1930, many substances were known to research chemists. These products were of much theoretical interest, but were disregarded for the most part, from a practical standpoint.

This does not mean that mills were not interested in using products to eliminate processing difficulties resulting from the inherent properties of soap nor that they failed to realize the origin of their troubles. Obviously, this was not the case. Mills found relief, in some instances, by using sulfated (or sulfonated) oils, obtained by introducing a sulfonic acid group into the fatty acid. However, it was soon realized that until the polar group was modified by eliminating the COOH radical, troubles would continue although probably not to the same extent.

This stimulated intensive research, and resulted in the issuance of thousands of patents covering synthetic detergents, some of which are good; some, without merit. Most of the new synthetic detergents are sulfates or sulfonates which, incidentally, have been produced by

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Fundamental Research*

By Milton Harris

THERE has been a tendency of the practical man in the mill to discuss the results of fundamental laboratory experiments with the statement, "this is all very interesting but I don't see where it fits into my picture." This statement arises from the fact that only the immediate practical applications of chemistry are considered, rather than the theoretical principles, and is understandable, especially since the achievements in fundamental research are generally not as apparent as are the developments in the industrial laboratory and cannot be directly translated in terms of lower costs or extended uses.

This talk is not designed primarily to answer the above statement but a few of the points to be discussed have considerable bearing upon it. Its main purpose is to present a few examples which demonstrate the interrelation of the fundamental and the practical sciences and in doing this, it is hoped to not only make clear what the mill can expect from fundamental research, but also to point out what the role of the investigator in textile research should be.

The textile industry has long been a major one and yet with the exception of the development of synthetic fibers, there have been few important changes in the industry in an era in which most industries, as a result of scientific developments, have gone ahead by leaps and bounds. And it must be said that the synthetic fiber industry received most of its early impetus from without rather than from within the active textile industry. It is a well known fact that when rayon was first put on the market, a committee appointed by silk manufacturers to study its possibilities, declared it a passing fad. The reason for this unfortunate conclusion was probably attributable in part to a lack of understanding of the possibilities of scientific research. But even today, similar decisions are constantly being made. I have seen textile people laugh at lanital, a synthetic substitute for wool, and yet I feel sure that it is probably a very much superior fiber today than was the rayon of not too many years ago. And even though I feel that the extremely complex chemical and physical properties of wool will make it the most difficult of the fibers to duplicate synthetically, it would be as much a folly to now disregard synthetic fibers which will simulate wool

as it was for the silk manufacturers of a few years ago to disregard rayon. Synthetic fibers are products of scientific research and are no doubt destined to become more and more important. Two choices remain then for the manufacturers who utilize the naturally-occurring fibers; namely, to improve the natural fiber which can only come about by a better understanding of the more fundamental nature of the material; or to study the properties of the synthetic fiber so that it can be utilized to its greatest advantage, if and when it must partially or wholly supplant the naturally occurring material. Both of these ends can only be accomplished by research.

The textile industry does not have to look far for examples of what research has done for other industries. Probably no single factor was more instrumental in pulling us out of the depression of 1921 than was the automobile, a product of research. And after our most recent depression, the industries which have made the most recovery are with few exceptions, those industries built on research. It is especially interesting to note that ten of eleven of our largest chemical companies paid common dividends throughout the depression. And in nearly every case the answer has been research resulting in the

development of new development of new methods, improved techniques, and new products.

If for the moment it is assumed that research is important to the future of the textile industry, the question arises as to whether emphasis should be placed on fundamental research. As it has been previously mentioned, the most obvious developments arise from the



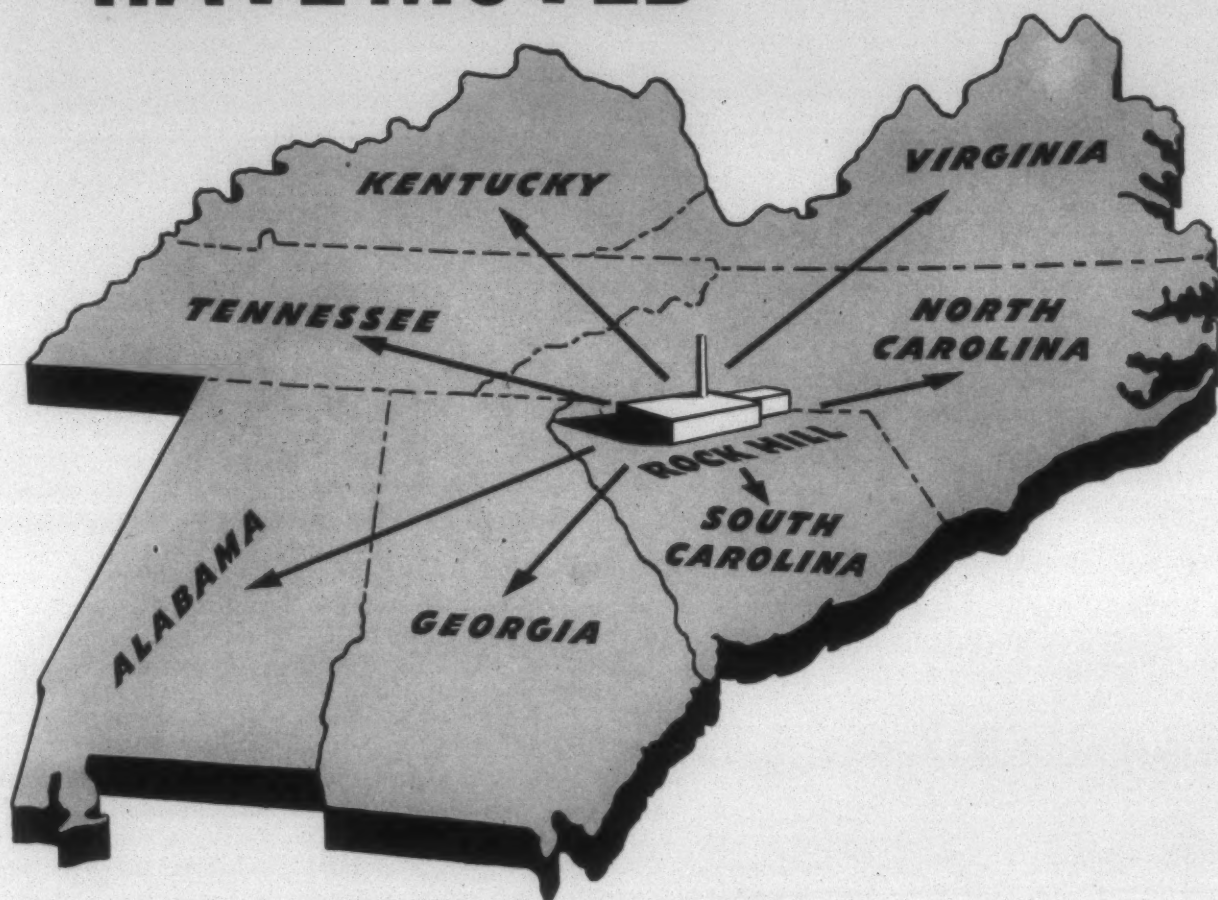
practical applications but as is very often the case, the fundamental discoveries precede the practical applications. There are many examples today of whole industries which have been built on the results of researches which were started with no practical end in view. Irving Langmuir's studies on surface chemistry led to the development of greatly improved light bulbs, new methods of producing high vacuums, new developments in the field of radio engineering, and the development of the atomic hydrogen torch. The late Father Nieuwland's work at Notre Dame University on the condensation products of acetylene furnished the fundamental background for the development of the synthetic rubber, Neoprene, by the du Pont Company.

Unfortunately, there is no large, well-organized scien-

*Presented at Annual Meeting of A. A. T. C. C.

(Continued on Page 8)

WE **HAVE MOVED** INTO YOUR MIDST



A Steadily increasing demand for WARCO chemical specialties in the southern textile industry has necessitated a closer contact between this company and southern mills. Consequently we have recently purchased a plant at Rock Hill, S. C., which we have completely equipped with the latest chemical manufacturing

machinery and which is now ready to operate.

From this centrally located point we are prepared to serve our southern friends more promptly than ever before with the best in chemical quality that modern methods can produce.

Let us hear from you when in the market.

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Fundamental Research

(Continued from Page 6)

tific group engaged in the study of textiles and textile materials. Some day, soon we hope, there will be such a group and it will be a fortunate one indeed. For it, there will be available a great mass of knowledge which is being accumulated in every branch of science, and some of which is waiting to be properly interpreted so that it may be put into circulation for the textile industry. The successful textile research man of the future will be the one who is acquainted with many fields of science. The boundaries of science are rapidly losing their significance and today there are countless examples of the results of one science being applied to another. The most recent postulate as to the structure of the proteins has come from a mathematician, while a physicist, as a result of studying sound waves, has contributed much to chemistry.

In our own work, on the chemistry of wool, we have found many parallelisms between the fundamental chemistry of this textile material and that of many biological substances which are now so important in studies relating to cancer, arthritis and diabetes research. For example, insulin, which is used in the treatment of diabetes, is a sulfur containing protein having many chemical properties similar to those of wool. We have found that oxidizing and reducing agents, alkalies, and exposure to strong light change the state of the sulfur in wool, which either causes direct degradation of the fiber or produces incipient damage which is greatly aggravated in the subsequent processing. Similarly, the same treatments change the state of the sulfur in insulin and destroy its physiological activity.

Perhaps the best example of the exchange of fundamental data of two such different fields as textiles and medicine resulted from our studies on the oxidation of wool. In the early work, we showed that careful oxidation of wool did not appear to damage it physically. However, its susceptibility to wet processing was greatly increased, and this fact puzzled us greatly. About the same time, two biochemists, Drs. Toennies and Lavine of the Research Institute of the Landenau Hospital of Philadelphia were engaged in the study of the oxidation of the amino acid cystine, as part of a program relating to cancer research. They found that oxygen would add directly to the disulfide group and that the stability of the oxidized derivatives decreased as the number of the oxygen atoms taken up increased. This gave us a much needed clue. Because of the drastic treatments which must be utilized in order to break wool down to its component parts, it was impossible to isolate partially oxidized cystine derivatives from a wool hydrolysate, but it was possible to obtain evidence by no less than six different methods of the existence of such compounds in wool. With the knowledge that the sulfur in wool was readily oxidized and by knowing the properties of the partially oxidized compounds of cystine, it was a relatively simple matter to predict the properties of oxidized wool. The susceptibility to alkalies and alkaline reagents is greatly increased and as a result of this, the alkali-solubility test for determining the extent of oxidation of wool was developed. Some of the partially oxidized groups in wool are oxidizing agents and this fact has been utilized in devel-

oping another test for distinguishing between oxidized and untreated wool.

The above example is one of a great many which can be cited to illustrate the relation of textile chemistry to other fields of science. There is a wealth of scientific data now available and there is an ample supply of scientific investigators who are constantly furnishing new data in all fields of research. But there is lacking in the textile industry an organized group of scientists who understand the fundamental concepts of chemistry, who can assimilate the available material and evaluate it, and finally, who can translate it into the language of the mill man. The need of such a group is imperative since only by understanding this scientific knowledge can the mill man hope to utilize it.

Detergents and Their Application to the Textile Industry

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chemists who utilized almost every known method to link the SO_3H group with the fatty group.

While soaps have certain disadvantages, the synthetic soaps, too, have their limitations. Insofar as general detergency is concerned, soap is still supreme except for some applications. For example, in scouring high shrinkage, high grease content raw wool, soap still does the better job, except under particular conditions, either of an operating or material nature, when it may be advantageous to use synthetic detergents—alone or along with soap. For light scouring jobs such as backwashing tops, etc., the synthetic products are superior to soap considering all angles.

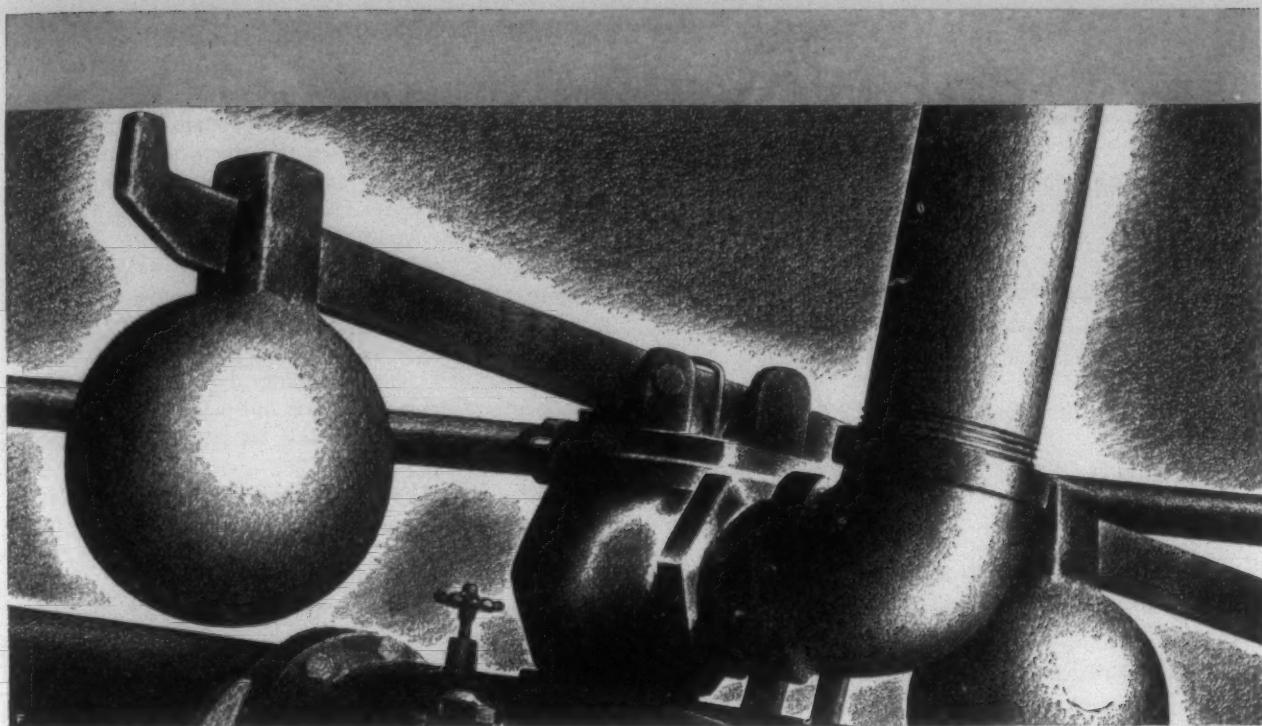
Where special effects are required, such as unfelted surfaces on worsteds which should be scoured and removed from the washer as rapidly as possible, synthetic detergents have advantages which make their use of more than passing interest to the critical mill operator.

For rayon-acetate scouring, many of the leading operators in New England, Paterson, Pennsylvania and the South have replaced soap with synthetic detergents.

The introduction of synthetic soaps opened new vistas for the textile mill operator, which were barred as long as old orthodox soap was the only product available for use. Some of these are: consolidation of two or more steps in a process; use of sea water, or untreated water for soaping prints, etc.; combination scouring and dyeing of lightly soiled fabrics even in an acid bath; and drastic reductions in rinsing time, without fear of odor troubles such as might develop when soaps are used.

You might be interested to know that some of the points which are being studied are the influence of pH, temperature, alkalies, electrolytes (such as salt), and hard water upon performance. For example, some products work better under acid than alkaline conditions, and vice versa. An increase in temperature improves detergency in many cases. Alkali frequently increases their efficiency while with other products it causes the fatty acid in the chain to split off and subsequently saponify to form soap with its attendant disadvantages. The presence of salt occasionally acts like a builder with some products, in the same way that alkali helps soap. Whereas, most people consider all these synthetic products sta-

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BALANCED PRODUCTION THROUGH CHEMICAL PROGRESS

Typical Cyanamid Developments

Many textile manufacturers are discovering ways to cut costs, eliminate faults and improve the quality of their products through the use of the Cyanamid specialties listed below. Their applications are steadily increasing in volume and variety.

NO-ODOROL—A finishing oil for finishing fine cottons, silks and rayon fabrics, whether dyed, printed or bleached. Gives a full, soft hand and absolute freedom from "after odors."

AQUASOL—A special sulfonated oil of exceptionally light color and unusual solubility. Recommended for use as a wetting out and leveling agent; also as a degumming and boil-off oil for silk.

CREAM SOFTENER—A sulfonated tallow softener for finishing any grade or style of cotton cloth,

dyed, printed or bleached. Emulsifies readily in water and holds white indefinitely.

MEL-O-TEX—A wax type softener made from the highest grade vegetable and animal waxes. Emulsifies readily in water and produces a stable white emulsion. Excellent for cotton and rayon mixtures.

ALSO—A complete line of Sulfonated Oils, Sizing Compounds, Penetrants, Wetting Agents, Acids, Alkalies, Heavy Chemicals, Dyewood Extracts, Tapioca Flour, Sago Flour, Gums, Waxes, Wool Grease, Pigments and Fillers. In addition, Cyanamid continues the sale of the Textile Specialties of the former Chas. H. Stone, Inc., and H. A. Metz, Inc., including the well-known "Victoria" line of oils and softeners.

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American Cyanamid & Chemical Corporation

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Personal News

G. H. Anthony, president of Veeder-Root, Inc., of Hartford, Conn., has become a director in the Aetna Insurance Company.

Harold Hoskins, a vice-president of Cannon Mills, Inc., is making a trip to Canton, China, in behalf of the Lingman University, of which he is vice-president.

Harry J. Fenton is now manager of the Murray Hosiery Mills, Murray, Ky., succeeding William Egloff. Mr. Fenton formerly was superintendent of the Ideal Hosiery Mills, Maryville, Ky.

Lauren N. Hale has been made production manager of the manufacturing division of Marshall Field & Co., Spray, N. C., to succeed Luther H. Hodges, recently promoted to general manager.

David Crowell, who has been assistant superintendent of one of the Cannon mills in Concord for several years, has been named superintendent of the Courtney Manufacturing Company at Seneca, S. C. He is an N. C. State College Textile graduate.

Ernest Whisnant, one of the proprietors of the Whisnant Hosiery Mills, Hickory, N. C., and who is a patient in the Charlotte Sanatorium, is much improved, according to reports. He had undergone an operation as a result of an injury sustained while horseback riding.

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S. C. Mills Pay High

Average hourly earnings in the South Carolina cotton goods industry were higher in 1937 than in any other Southern State, ranging from two to 28 per cent above averages of neighboring States, the Cotton Manufacturers' Association of South Carolina reported recently.

The statement, based upon a survey using Department of Labor figures, covered 68,470 mill workers in ten Southern States, and included establishments manufacturing plain and fancy cotton fabrics in the gray, over 12 inches in width, all cotton felts and cotton yarns and thread. Excluded were bleaching, dyeing and finishing departments of mills engaged in finishing piece goods, as were mercerizing and finishing departments of thread mills.

Southern States covered in the study, together with number of plants and number of employees, were as follows: South Carolina, 36 and 17,595; Alabama, 19 and 8,400; Georgia, 32 and 12,627; North Carolina, 79 and 22,862; Tennessee, 5 and 1,871; Mississippi, 4 and 803, and Texas, 6 and 1,133.

Consumption of Cotton is Below February of 1937

Washington.—The Census Bureau reported cotton consumed during February totaled 427,528 bales of lint and 47,888 of linters, compared with 434,740 and 44,892 during January this year, and 665,677 and 63,674 during February last year.

Cotton on hand February 28th was reported held as follows:

In consuming establishments, 1,814,997 bales of lint and 273,594 of linters, compared with 1,762,609 and 261,264 on January 31st this year, and 2,061,120 and 287,674 on February 28th last year.

In public storage and at compresses, 11,655,837 bales of lint and 86,103 of linters, compared with 11,771,749 and 79,797 on January 31st this year, 5,961,745 and 78,974 on February 28th last year.

Imports for February totalled 18,797 bales, compared with 6,450 in January this year, and 22,544 in February last year.

Exports for February totalled 398,744 bales of lint and 21,432 of linters, compared with 647,481 and 25,551 during January this year, and 486,411 and 17,951 during February last year.

Cotton spindles active during February numbered 22,356,638, compared with 22,327,444 during January this year, and 24,517,706 during February last year.

Cotton consumed during February in cotton-growing States totaled 360,558 bales, compared with 373,080 during January this year, and 555,118 during February last year.

Cotton on hand February 28th included:

In consuming establishments in cotton-growing States, 1,529,373 bales, compared with 1,489,994 on January 31st this year, and 1,723,964 on February 28th last year.

In public storage and at compresses in cotton-growing States, 11,565,954 bales, compared with 11,684,093 on January 31st this year, and 5,851,494 on February 28th last year.

Cotton spindles active during February in cotton-grow-

ing States numbered 16,882,508, compared with 16,897,958 during January this year, and 17,743,502 during February last year.

Soviet Cotton Manufacturers

(Cotton Trade Journal)

People in this country who favor the Communist style of government and who think the masses in the United States would be better off under a Soviet sort of government will do well to study reports that are coming from Russia regarding what is being done there about clothing the Russian masses. If there is any "advanced" nation in the world which needs better clothing and more of it, it is Russia. Should Russia start clothing itself to the extent as the United States, a big hole quickly would be put in the existing surplus of raw cotton.

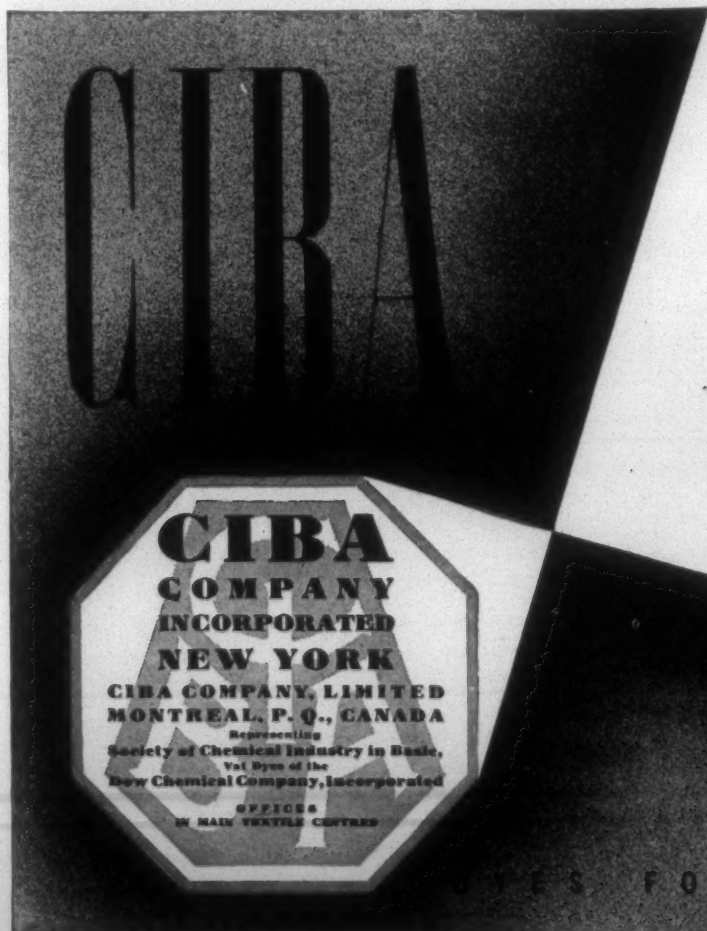
The truth of the matter is that Russia has found itself better able to grow cotton than to spin and weave it, although of course the crops of cotton which Russia annually raises, a maximum of hardly more than 3,250,000 bales, are pitifully small in proportion to its population. Russia, with its population of about 165,000,000 should be using annually at least 8,000,000 bales of cotton.

Consular trade reports are notably dry and dispassionate and those we get from Russia are written in the same style as those from Great Britain, regardless of the fact

that we, in this country, have on the whole but little liking for the government of the one and no great objection to the government of the other, notwithstanding the crown it wears. The consular reports on textile industries in Russia would indicate, reading between the lines, that efforts are being made by the workers to produce as little as possible. In other words there are signs of sabotage. During the first eight months of 1937, the production of cotton goods was 83.2 per cent of the planned volume and the production of cotton yarns 83.9 per cent. The total shortage during the eight months under consideration, that is, the amount to which production fell below the production planned for, in the case of finished cotton fabrics, was 469,800,000 yards.

What seems to be even more serious than the smaller than expected volume of production was the loss in quality of manufactured goods and the great increase in the percentage of defective goods. One report has it that in the month of July, 1937, almost one-quarter of the total Soviet output of all cotton goods consisted of rejections and second class goods and that during 1936 there was a steady increase in the percentage of poor quality goods. With 1936 and 1937 showing up so badly, what can the Soviet expect for 1938? Should Russia become a great textile manufacturing nation such as it should be considering its climate and the needs of its people against that climate, it would be a boon for the cotton growers of the world.

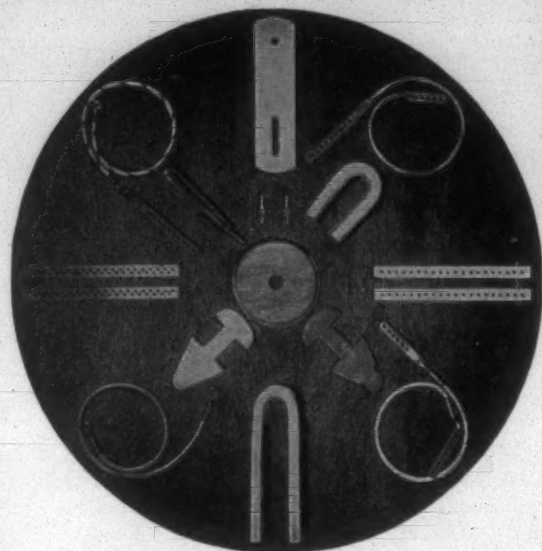
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Detergents and Their Application to the Textile Industry

(Continued from Page 8)

ble to hard water—and they are to a certain extent—they do behave differently.

What the future will bring in synthetic soaps is difficult to predict. Intensive research is continually being carried on and resulting improvements are constantly being incorporated into the synthetic soaps.

Now—Why do detergents clean? Here are some of the theories, in brief, which have been propounded.

a. Hydrolysis

Hydrolysis of soap in water solution has been used to explain detergency. This theory is obviously incorrect when it is considered that some of the newer synthetic soaps, which do not hydrolyze, have detergent powers.

b. Surface Tension Lowering Ability; Interfacial Tension

The ability of soap to lower surface tension and interfacial tension has long been used as a criterion to evaluate the detergency of soap. But, there is no direct correlation between these factors and detergency. For example, alcohol and some wetting-out agents lower both surface and interfacial tension without having any significant detergent action.

c. Emulsifying Power

Laboratory methods, such as suspending lampblack in a detergent and subsequently filtering, have been tried hoping to judge the detergency of the product by evaluating its emulsifying or suspending ability. However, emulsification gives no true indication of detergent power. For example, casein in milk is a splendid emulsifier of butter fat and the water. Glue, saponin, etc., are other typical, well-known emulsifiers which, however, have little, if any, detergent power. Therefore, although emulsification is important, it is not the only factor.

d. Sudsing Power

Attempts have been made to obtain a quantitative measure of the detergent power of a product by noting suds height after dissolving a small amount of the detergent to be tested and shaking in a bottle. Obviously, sudsing is no true test of the detergent value of a product, when it is recalled that saponin, and some wetting out agents have remarkable sudsing power, but little or no detergency. Therefore, just because a detergent being tested under plant conditions lathers rapidly or sudses more profusely than another detergent in the washer, scouring bowls, etc., is no reason to disregard our scientific background and declare that product the best yet. Remember, the product may be best, but, if it is, sudsing power is not the determining factor.

e. pH

pH, that happy sounding keyboard phrase, that merely to say, almost entitles one to a seat among the mystical band of scientists, has been battered from pillar to post to explain anything which happens to everything. Various ideas have been expressed as to the proper pH for best detergency. Until the introduction of synthetic detergents, the correct pH was always on the alkaline side; some insisting on 10, 10.3, 10.5, 11.0, etc. Undoubtedly, pH, while again a contributing factor, and probably of vital importance in some textile processes such as silk degumming, cannot possibly be the sole explanation of

detergency. This can be proved by two simple tests. First, scour a piece of cloth oiled with mineral oil using straight alkali of any desired pH. Then, repeat the test using soap, or soap and alkali of the same pH. The answer is obvious. Alkali alone is helpless; soap or similar products are absolutely essential for good results.

Tire Official Urges Growth of Long Staple Cotton

Washington.—Col. Charles E. Speaks, president of the Fisk Rubber Corporation, has urged a combine of governmental agencies, cotton growers, and rubber goods manufacturers in research efforts to recapture the \$10,000,000 long staple cotton market that is being lost each year to foreign growers.

In a letter to all the members of the Senate, Colonel Speaks offered full co-operation of his company's technical research laboratories in helping to solve the problem. He described the existing situation as regrettable, "particularly at this time when our own national economic system is feeling restricted demand so keenly.

J. M. Slattery, manager of the corporation's rubber and

cotton department, pointed out that little improvement in quality has been made here in 20 years, "yet the Egyptian government has met each issue of deterioration by bringing out newer varieties to keep pace with the world demand for a standard, long staple cotton."

"With millions of dollars being spent on crop control, the United States Government could profitably establish a research program to discover why our cotton varies so widely in quality from year to year. The current staple cotton crop again lacks this uniformity," he continued.

The tire industry, Slattery explained, must have this quality cotton if it is to build safety into automobile and truck tires. The cotton is made into cord used in building tire plies. Only the strongest cord can be used.

"When domestic sources fail, it is necessary for the industry to purchase its cotton elsewhere, and the American farmer loses millions of dollars through no fault of his own," he continued. "The cotton crop of 1931-32 was the most disastrous from the point of quality that had been seen in many years. Yet the 1934-35 crop was excellent. Consistently high quality would keep this money in the home market, thus benefiting both the cotton producer and the tire consumer."

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Moving Week

THIS WEEK we began to move from the quarters we have occupied, upon the second floor at 118½ West Fourth Street, in Charlotte, to our new building at 218 West Morehead Street, and as the movement of our linotype and printing machines has to be timed so as not to delay the weekly publication of the TEXTILE BULLETIN, the entire movement will probably require ten days.

We have occupied our present quarters for twelve years, and prior to that time were in a small building on South Church Street, which is just around the corner.

The first quarters of the TEXTILE BULLETIN, when we began publication in 1911, were one room upon the ninth floor of Independence Building, in Charlotte, but at that time we had no printing equipment of any kind, and for several months our entire organization consisted of David Clark and a stenographer, who was employed on one-half of each day. Four months after beginning publication the stenographer was put on a full time basis and the late D. H. Hill, Jr., joined us as associate editor, in order that Mr. Clark could spend a larger portion of his time in the North looking after the advertising.

We later secured additional rooms in the Independence Building but remained there until 1918, when we moved into the small building on South Church Street.

About 1924 Mr. Clark purchased the Wash-

burn Printing Company, but left it in its quarters on West Trade Street until the TEXTILE BULLETIN acquired its present quarters at 118½ West Fourth Street.

Our new building at 218 West Morehead Street was designed by J. E. Sirrine & Co., and is probably the best printing plant in the two Carolinas. It has a frontage of 80 feet on West Morehead Street, with 10-foot alleys on each side, and runs through to the next street so as to afford a rear entrance.

It is a one-story building of standard mill construction with the exception of the front, which was designed by Martin Boyer, a Charlotte architect, and is of black glass and face brick. The window frames are of steel, with protection bars, and they are so placed that under ordinary conditions very little artificial light will be required.

Our new quarters are far enough from the business section of Charlotte to provide convenient parking and our friends will find it more convenient to visit us.

We are one and a half blocks off of Tryon Street, which is the principal business street of Charlotte, and West Morehead Street is the street which goes towards Gastonia, Kings Mountain and Shelby and to Spartanburg and Greenville, S. C.

The Probable Decision

THE National Labor Relations Board has been hearing the claim of illegal discharge made by W. J. Johnson against the Burlington Dyeing & Finishing Co.

Henry Valus, dye supervisor at the plant and who discharged Johnson, said that the man had been let out as the result of ruining cloth valued at over \$1,000. He declared that he was first laid off temporarily in order that he could examine his record to see whether he should be taken back or permanent discharged.

Upon examination, he testified that he found Johnson had been negligent in the past and had been warned on occasions. Valus declared that he had been informed that there were several other union men in the plant, but that as long as they performed their work satisfactorily, they would continue to work.

If the decision in this case is on a par with that made at many other plants, the mill will be ordered to reinstate Johnson and pay him his wages for the time he was out.

Membership in a union is usually accepted as prima facie evidence that discharge was because of such evidence.

The Voice of Our Fathers

THE Reorganization Bill, which is now before Congress, gives President Roosevelt almost plenary powers, and it may be well to read and consider the warning given by George Washington in his farewell address when he said:

It is important, likewise, that the habit of thinking in a free country should inspire caution, in those entrusted with its administration, to confine themselves within their respective constitutional spheres, avoiding in the exercise of the powers of one department to encroach upon another. The spirit of encroachment tends to consolidate the powers of all the departments in one, and thus to create, whatever the form of government, a real despotism. A just estimate of that love of power, and proneness to abuse it, which predominates in the human heart, is sufficient to satisfy us of the truth of this position. The necessity of reciprocal checks in the exercise of political power, by dividing and distributing it into different depositories, and constituting each the Guardian of the Public Weal against invasion by the others, has been evinced by experiments ancient and modern; some of them in our own country and under our own eyes. To preserve them must be as necessary as to institute them. If, in the opinion of the people, the distribution or modification of the constitutional powers be in any particular wrong, let it be corrected by an amendment in the way which the Constitution designates. But let there be no change by usurpation; for, though this, in one instance, may be the instrument of good, it is the customary weapon by which free governments are destroyed. The precedent must always greatly overbalance in permanent evil any partial or transient benefit which the use can at any time yield.

When Washington spoke, he had in mind the tyranny of the Governments, which he and his immediate ancestors had seen in Europe and the denial of freedom under those who usurped power.

Washington and other American patriots sought to safeguard the personal liberty of the future citizens of America and to protect the people against such usurpations of power as are now being witnessed.

One Man Tells The Truth

JEROME S. NEWMAN, president of the Royal Weaving Company, of Pawtucket, R. I., is to be congratulated upon his frankness and truthfulness.

He recently decided to liquidate his plant and, being unwilling to make a false excuse based upon Southern competition, gave the following statement to the press:

Reasons—due in part to the general business conditions and to the fact that most of the machinery is obsolete, making competition impossible.

The truth is that very few textile plants in

New England have gone out of business because of Southern competition.

Most of those liquidated were so antiquated that they could not have competed with a modernly equipped plant in their own section.

Most of those who had failed to modernize their equipment were afraid to make capital expenditures in a section where labor unions made strikes and shut-downs a regular occurrence and where there was the constant threat of unfriendly legislation by State legislatures.

If the managers of 75 per cent of the New England textile plants which have gone out of business had been as honest as Jerome S. Newman they would have duplicated his statement.

Would Admit English Goods and Yarns

THE Administration has argued for higher wages and a higher standard of living for American labor, but now proposes to lower the tariff upon English cotton goods and yarns.

We are utterly unable to understand how they expect American manufacturers to be able to operate under such conditions.

Limiting Indebtedness

North Carolina is more conservative in its financial affairs than the Federal Government.

The citizens of this State are unwilling to assume obligations which they cannot pay and which would overburden future generations.

North Carolina is gradually reducing its bond obligations and is the only State in the Union which has written into its Constitution the provision that it and its subdivisions cannot borrow in any one year an amount in excess of two-thirds of the amount of debt retired during the preceding year.

Governor Hoey has recently pointed out that "North Carolina was reducing its indebtedness steadily, even before this amendment was adopted, with the result that during the last five years from July 1, 1932, to July 1, 1937—The State and its subdivisions have paid off approximately \$50,000,000 of bonded indebtedness in excess of all new borrowings, and in addition to paying all interest charges."

North Carolina's example, therefore, could well be followed by the Federal Government whose indebtedness is mounting higher and reaching nearer the point of collapse.—*Shelby Star*.

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Mill News Items

LINCOLNTON, N. C.—A charter has been issued to Crown Converting Company, a textile mill, of Lincoln.

W. M. Lentz, Margaret S. Lentz, and C. R. Jones, all of Lincolnton, subscribed three of the 500 authorized shares for the concern. Further details were not available.

GREENSBORO, N. C.—Mock, Judson, Voehringer Co., Inc., and subsidiary companies report for the year to December 31, 1937, a net profit of \$473,938, after depreciation, amortization, Federal and State income taxes and \$49,211 surtax on undistributed profits, as compared with a net profit of \$293,443 in the preceding year. Earnings for the year just ended equalled \$2.1 cents per share on 200,000 common shares outstanding, as against \$1.24 in 1936.

In his letter to stockholders, John K. Voehringer, Jr., president, said:

"In 1937 the sales of your company exceeded its production and were the highest in its history. All plants are now operating at full capacity and for the months of January and February, 1938, sales and shipments have been approximately 10 per cent in excess of the same months of last year."

He pointed out that during 1937 the firm expended \$159,706 to increase production and maintain efficiency in the operation of the plants.

Current assets, as at December 31st last, were \$1,593,138 and current liabilities were \$574,654. At the close of the previous fiscal year, current assets amounted to \$1,423,911 and current liabilities \$456,495.

CHARLOTTE, N. C.—The Highland Park Manufacturing Company has under way an improvement program which entails expenditure of a large sum of money on new machinery and renovation of the more than 200 houses in the mill village, it was learned March 19th.

When the new machinery has been installed, the plant will be one of the most modern in the South and the mill village will be in excellent condition. It will be about three months before the program is completed.

The new machinery includes addition of new Saco-Lowell long draft spinning equipment, more than 100 new four-box looms, Saco-Lowell drawing control draft slubbers, and 10 Whitin combers.

There are 166 homes in the No. 3 village and 50 at the No. 1 plant. All of these homes will be re-roofed, repainted, inside and out, and remodeled with the result that the village will be one of the best planned and attractive in a large section.

It was stated that in addition to adding the new machinery, the company is having all other machinery overhauled and put in the best possible condition.

At the No. 1 plant, which is a finishing plant and dye-house, the company employs 100 workmen. The No. 3 plant gives employment to from 750 to 800 persons. The company manufactures fancy shirting and dress goods, mostly colored.

Mill News Items

FORK SHOALS, S. C.—A \$75,000 machinery modernization program at the Virginia Manufacturing Company of Fork Shoals has been completed, it was learned from President George H. Anderson.

The work involved complete replacement of roving machines and spinning equipment. Modern roving machines and long-draft spinning equipment were installed.

Mr. Anderson said the mill had resumed operations, and was running two 40-hour shifts. It is one of the few plants in this area on full time.

The plant employs approximately 100 persons and produces carded cotton yarns.

GASTONIA, N. C.—Establishment of a locally-owned and operated full-fashioned hosiery mill in Gastonia seems certain, after announcement by those in charge of taking subscriptions to stock that more than half of the required capital has been taken. The amount sought for initial investment is \$150,000.

Launching of this project has served to stimulate renewed interest in diversification of industry for Gastonia. Heretofore Gastonia and Gaston County have specialized in the production of fine combed yarns, manufacturing 85 per cent of all the fine combed yarn made in America.

Those in charge of soliciting stock for the new plant say that they have met with an unusually cordial and interested reception and have no doubt but that the movement will be entirely consummated within a few days.

McCOLL, S. C.—At an early date, the Marlboro Cotton Mills of McColl will get an R. F. C. loan and will use the money to modernize the plant and equipment of the mills, it has been announced here by the officials. It was stated that the officers of the mills were authorized to negotiate for the loan at a recent meeting of the directors. In order that the mills can engage in the manufacture of cotton sheeting as well as tire fabric, additional machinery will be installed.

In the past the five units of the Marlboro Cotton Mills were equipped to manufacture only fabric and when that market declined it was necessary for the units to close. With the diversification, the directors feel that the mills can secure sufficient orders to keep operating each month of the year.

When all loans formalities are completed, the complete details of the changes in the units and other plans of the directors will be announced.

CHARLOTTE, N. C.—The Hoskins Mill, a unit of the Chadwick-Hoskins chain, has suspended operations indefinitely, according to an announcement by B. B. Gossett, of Charlotte, president of the company.

Other plants of this chain will continue to operate at least for the present, on the current sharply curtailed schedules, he said.

Mr. Gossett explained that this plant produces a "seasonal fabric" for which current demand is low and the immediate prospects for business for the mill did not justify continuation of operations even on a curtailed basis. He added that operations will be resumed just as soon as conditions will warrant it.



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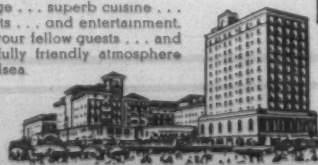
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Spinning Mills Increase Output To 98.9%

Washington.—The Census Bureau reported that the cotton spinning industry operated during February at 98.9 per cent of capacity, on a single shift basis, compared with 93.5 per cent during January this year, and 144.8 per cent during February last year.

Spinning spindles in place February 28th totalled 26,549,720, of which 22,356,638 were active at some time during the month, compared with 26,610,076 and 24,536,254 for February last year.

Active spindle hours for January totalled 5,588,526,740 or on an average of 210 hours per spindle in place, compared with 5,682,452,696, and 214 for January this year, and 8,352,662,065 and 308 for February last year.

Spinning spindles in place February 28th in cotton-growing States totalled 18,809,376, of which 16,882,508 were active at some time during the month, compared with 18,812,744 and 16,897,958 for January this year, and 18,952,236 and 17,760,252 for February last year.

Active spindle hours for February in cotton-growing States totalled 4,383,169,011, or an average of 233 hours per spindle in place, compared with 4,554,720,798 and 242 for January this year, and 6,374,652,000 and 336 for February last year.

Active spindle hours and the average per spindle in place for February by States follow:

Alabama, 395,237,762 and 206; Georgia, 742,429,790 and 229; Mississippi, 56,154,744 and 270; North Carolina, 1,288,259,870 and 213; South Carolina, 1,479,985,125 and 259; Tennessee, 178,923,048 and 298; Texas, 62,510,698 and 243; Virginia, 144,442,388 and 228.

Whitin Machine Works Handles New Condenser

Knowlton & Newton Co., Inc., of Lowell, Mass., have recently made an agreement with Whitin Machine Works as their licensed agent covering the manufacture and sale of their patented Return Air Condenser as used in picker rooms. They state that this has been done in order that the device might be handled in a broader selling field.

The Return Air Condenser is said to have been installed successfully in upwards of sixty cotton picker rooms to date, and is rapidly gaining favor among the mills as a solution to the problems of air conservation and purification in the picker department, as well as being in a factor in heat economies.

Whitin Machine Works has recently gotten out a new circular descriptive of the condenser which is sent on request.

Larger Deliveries of Rayon Reported For February

Shipments of rayon yarn by producers to domestic mills showed a further gain during February, according to the current issue of the *Rayon Organon*, published by the Textile Economics Bureau. Production of yarn for the month equalled shipments. Activity among rayon weavers is reported at the highest levels since last October.

Stocks of yarns in the hands of producers at the close of February amounted to a three months' supply, based

on average monthly shipments over the previous twelve months.

"Although the stock index for February represents a 7 per cent increase over the January index of 2.8 months' supply," states the publication, "it does not mean that the actual pounds held in stock by the yarn producers have been increased by a similar percentage. The increase has been caused principally by the decrease in the size of the base factor used to determine the index, namely, average monthly shipments over the past twelve months. Actually last month's stock increase was nominal, as production essentially was balanced by shipments during February.

"The available stock of rayon grey and finished goods continued to decline during February. Although the stocks of some types of finished rayon goods are still adequate, it is probable that the present weavers' holdings of rayon grey cloths are at an all-time low relative to normal volume of business done.

"Thus the improvement in February yarn shipments by producers to weavers represents entirely current requirements only. Rayon weavers' loom activity showed good increases during the month, the activity in most constructions during the week of February 19th being the highest since last October."

The *Organon's* index of rayon deliveries on the new basis (covering all types of rayon yarn) is as follows:

(1923-1925 average=100)

	1938	1937	1936	1935	1934
January	374	737	609	675	459
February	493	721	648	520	497
March		693	554	334	396
April		702	572	351	358
May		724	572	502	362
June		693	664	532	402
July		697	769	589	416
August		693	826	712	389
September		562	713	773	393
October		368	669	618	505
November		253	714	593	515
December		240	713	652	612
Average	434*	590	669	571	441

*Year to date.

New Text On Cotton Spinning Published

H. H. Willis, G. H. Dunlap and V. B. Moore have just published a new text on Cotton Spinning. This text is one of a series on cotton yarn manufacturing being prepared under the supervision of H. H. Willis and in co-operation with the Textile Foundation. The books of the series which have thus far been published are: (1) Cotton Opening, Cleaning and Picking, (2) Cotton Carding, (3) Drawing Frames, (4) Roving Frames, and (5) Cotton Spinning.

Two additional books, one on Cotton Classing, and the other on Combing, will probably be completed by June of this year.

These texts are well illustrated and thoroughly up-to-date. They are proving valuable for use in textile schools, in textile evening classes in industrial centers, and as reference books.

The price of these texts is approximately \$1.50 each. Copies may be obtained from H. H. Willis, Clemson College, S. C.

WENTWORTH

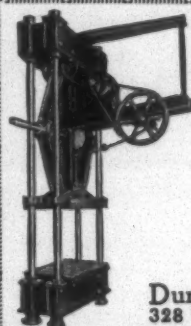
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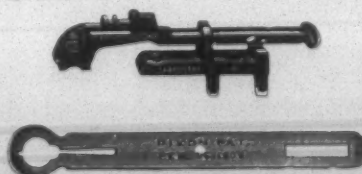
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Cotton Goods Markets

New York.—Trading in cotton goods markets last week was lifeless. Sales were a fraction of production. War-like developments abroad and a generally unsatisfactory domestic business situation combined to make buyers cautious.

Prices on coarse goods eased a trifle and further reductions were made on combed goods. Print cloths sold in small fill-in lots, sheetings were inactive and business in industrial fabrics was negligible.

Finished cotton goods sold in minor amounts. Percales moved well but demand for colored cottons was slow. Lower prices were named on blankets and on some lines of sheets. Upholstery and curtain goods were very slow.

A fair amount of new orders has been materializing from day to day on such cotton clothing fabrics as vat dyed khakis and jeans. The popular construction is a 28-inch finished width of 2.50-yard drills, basis 72x60, that is offered at 14c. The same price applies on a matching shirt weight jean, namely 2.85-yard in a 36-inch width. Another vat dyed khaki is a 28-inch wide 2.50-yard herringbone, priced 14½c, the matching fabric being a 2.85-yard jean at 14½c. Sanforized these cloths are priced 2c a yard higher. They have taken widely for summer wear and manufacturing activity is taking place to turn out garments for Southern wear first and for Northern climates a little later. The use of matching fabrics in the two weights needed for pants and shirts is helping to make a market for drills, jeans and herringbones.

Sellers have asserted that buyers were apparently overdoing abstention from the market in the same way that they overdid participation in the buying movement of a year ago. Buyers approached by brokers and advised to cover part of their needs for the second quarter were reported to have retorted that if the market went against them they would be ruined.

Print cloths, 27-in., 64x60s	3¾
Print cloths, 28-in., 64x60s	3⅞
Gray goods, 38½-in., 64x60s	4¾
Gray goods, 39-in., 80x80s	6⅝
Tickings, 8-ounce	15½
Denims, 28-in.	10½
Brown sheetings, standard	9¼
Brown sheetings, 4-yard, 56x60s	5⅝
Brown sheeting, 3-yard	6½
Staple ginghams	10

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Cotton Yarn Markets

Philadelphia, Pa.—While buying of cotton yarns has been quiet for the past week, it is reported that inquiries have been more numerous than has been true for the past few weeks. As far as market stocks of yarns are concerned, it is claimed that they are in about the same position as stocks of a good many retailers; that is, much depleted, and in no condition to service any converted buying movement.

Yarn suppliers indicate that while a few sources have too much yarn and are cutting prices to move it promptly, most mills have improved their inventory position since January 1st, and have further reduced spindle operations this month to avoid making more yarn than delivery specifications currently call for.

Many yarn mills before long will urgently need new orders, if still further curtailment is to be avoided. Better grades of standard white yarn continue to maintain their margin above prices current for ordinary quality. Good cotton remains relatively scarce for better grade yarns in counts above 30s.

Efforts are being made by users of ordinary and medium grade yarn to use the cotton setback as a means of locating supplies of yarn at materially lower prices.

Suppliers are resisting such efforts, claiming yarn rates failed to benefit from the recent advance in cotton. In addition, they assert, the influences which caused cotton quotations to ease off lately are only a temporary restraint and the outlook is for the cotton rally to be resumed.

As compared with a year ago, combed yarn mills report spindle hours reduced to about 55 per cent, or taking 1937 as a whole, spindle hours are down about 66 per cent. Present operations in this department, therefore, are about enough to take care of current rate of shipments.

Southern Single Skeins		Two-Ply Plush Grade	
8s	17 1/2	12s	19 1/2
10s	18	16s	21
12s	18 1/2	20s	21 1/2
14s	19	30s	26 1/2
20s	20		
26s	23		
30s	25		
36s	28		
40s	29 1/2		
Southern Single Warps		Duck Yarns, 3, 4 and 5-Ply	
10s	18	8s	18 1/2
12s	18 1/2	10s	19
14s	19	12s	19 1/2
16s	19 1/2	14s	20
20s	20	16s	20 1/2
26s	23	20s	21
30s	25		
40s	29 1/2		
Southern Two-Ply Chain Warps		Carpet Yarns	
8s	18	Tinged, 5-lb., 8s, 3 and 4-ply	15
10s	18 1/2	Colored strips, 8s, 3 and 4-ply	16 1/2
12s	19	White carpets, 8s, 3 and 4-ply	17 1/2
14s	19 1/2		
20s	20		
26s	23		
30s	25		
36s	29		
40s	30		
Southern Two-Ply Skeins		Part Waste Insulated Yarns	
8s	18	8s, 1-ply	14 1/2
10s	18 1/2	8s, 2, 3 and 4-ply	15 1/2
12s	19	10s, 2, 3 and 4-ply	16
14s	19 1/2	12s, 2-ply	16 1/2
16s	20	16s, 2-ply	17 1/2
20s	21	20s, 2-ply	19 1/2
26s	24	30s, 2-ply	23 1/2
30s	25		
40s	30		
		Southern Frame Cones	
		8s	17 1/2
		10s	18
		12s	18 1/2
		14s	19
		16s	19 1/2
		20s	20 1/2
		22s	21 1/2
		24s	22 1/2
		26s	23 1/2
		28s	24 1/2
		30s	25 1/2

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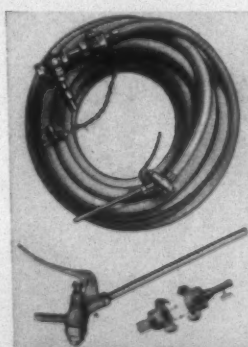
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British Firm Offers New Spun Dyed Rayon

London.—Harbens, rayon producers of Golborne, Lancashire are now producing commercially a viscose yarn which is dyed before spinning. It is known as neochrome yarn and is available in nineteen standard shades, including black.

The advantages claimed for this year are increased freedom from broken filaments (since it is subjected to less processing) slubs and twists, and a permanently dull finish. It is almost as fast as vat dyed yarns and it is cheaper than vat dyed rayon. It is intended particularly for the dress trade, for the weaving as well as the knitting industries. Harbens are believed to be the only rayon producing concern in Britain making a yarn dyed before spinning.

Seek 600,000 Yards Of Cottons for WPA

Washington. — The Procurement Division, Treasury Department, has made known intentions to purchase approximately 600,000 yards of cotton textiles for account of the Works Progress Administration to be delivered to emergency work relief rooms throughout the United States.

Carolina Cotton Festival Set for Charlotte April 12

Charlotte, N. C.—Plans for a huge Carolinas Cotton Festival to be held in the Armory-Auditorium in Charlotte on the evening of April 12th have been announced.

The festival will be presented by the *Charlotte Observer* in co-operation with the American Cotton Manufacturers' Association, and the Cotton-Textile Institute, Inc. W. M. McLaurine, secretary of the Cotton Manufacturers' organization, and Owen Fitzsimmons, field representative for the Institute, will serve as co-chairmen for the event.

Miss Katherine Cleveland, of New York, consumer consultant and stylist of the Institute, and C. K. Everett, head of its new uses division, will be here to assist in the event. The principal feature will be a fashion show in which Miss Cleveland will present some of the outstanding cotton creations from Paris and other style centers. Gov. Clyde Hoey of North Carolina and Gov. Olin Johnson of South Carolina will be honor guests and leading manufacturers of the Carolinas will attend.

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FOR SALE—2 Shawmut Automatic Reed Cleaning and Polishing Machines. Either of these machines will clean reeds up to sixty inches long. These machines in perfect condition and are offered at a sacrifice. Address Howard Bradshaw, Cayce, S. C.

WANTED—Second hand for a small single process card room. Prefer textile graduate but need a live wire. Address "Live Wire," care Textile Bulletin.

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Location of Cotton Research Lab Not to be Soon

Washington. — Secretary Wallace has informed Representative Fulmer (Democrat) of South Carolina, it is unlikely any decision on the location of the proposed \$1,000,000 cotton experimental station can be reached soon.

South Carolina, among other Southern States, is seeking consideration for the laboratory authorized by the new farm law.

Wallace, in a letter to Fulmer, pointed out that funds for establishment of the laboratory will not become available until July 1st.

"Therefore, you should have ample time to complete and submit the statement (about South Carolina) which you have in mind," the Secretary wrote.

"I assure you that all facts presented will be given most careful consideration along with similar statements being presented in behalf of other States."

Wallace said the Agriculture Department hoped to locate the laboratory "where there is great opportunity" to serve cotton.

"In justice to all," he wrote, "the department is deferring commitments until all factors can be most carefully studied."

"A number of States and some localities have already submitted state-

ments presenting their analysis as to the problems of such a laboratory and the advantages of the State or locality in question as a location for such a laboratory.

"For the present, the department can only assure consideration of all facts and recommendations presented in making the final decision as to location."

Texas First State In Wool Production

Austin, Tex.—Wool production in Texas last year aggregated 75,835,000 pounds, with Wyoming, the second ranking State, showing a total production of 30,361,000 pounds, according to official figures recently compiled. The average price received by Texas wool growers last year was 30 cents a pound, or \$22,750,500 for the fall and spring clips. The number of sheep sheared in this State was 9,280,000, three times the number in the next ranking State, Wyoming, which reported 3,130,000, and a marked gain over the number sheared in 1936 which was 7,790,000.

The average clip per animal in Texas was 8.2 pounds, the same as the year before. This is slightly over the national average of 7.96, but below such Western States as Wyoming with 9.7, Idaho 9.4, Montana 9.6, Oregon 8.6, Washington 9.4 and Utah 8.6 pounds.

About four-fifths of the sheep in Texas are located on the picturesque Edwards Plateau, with San Angelo as the center of marketing. More recently there has been a substantial increase in sheep on farms in North and Central Texas, it was stated. Many of these sheep are of the Shropshire and Hampshiredown breeds.

Callaway Mills Open New Sales Showrooms

Callaway Mills held a formal opening of their new display rooms at 1 Park avenue, New York. Members of the textile industry were in attendance and many buyers were on hand to participate in the reception attending the presentation of a new line of drapery and upholstery goods.

To assist in greeting the many visitors, J. F. Hagen, sales manager, was aided by Cason and Fuller Callaway, Jr. Cason Callaway had just returned from a visit to the Argentine. There was considerable pleasure expressed by those attending regarding the appropriateness of the layout of the showrooms and the initiative displayed in preparing the attractive lines available.

Set County Cotton Acreage Allotments

Washington.—The Agricultural Adjustment Administration announces that county acreage allotments for cotton have been completed in all cotton growing States, and that the apportionment of the county allotments to individual farms is already under way in connection with the 1938 farm program.

The first cotton acreage allotments to be approved for individual farms were in South Carolina, where the county committees of the Triple-A finished the apportionments in nine counties and started mailing allotment notices to 19,285 cotton growers. The allotments in the nine counties totaled 218,356 acres. The total cotton acreage allotment for South Carolina is approximately 1,278,000 acres.

Welwood To Dismantle Mill At McMinnville

McMinnville, Tenn.—All machinery of the Welwood Silk Throwing Mills, Inc., in this city, will be dismantled and moved to Murfreesboro for storage. The mills closed last fall due to slack in business and have been operated only at intervals since.

Southern Sources of Supply

For Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

ABBOTT MACHINE CO., Wilton, N. H. Sou. Agt., L. S. Ligon, Greenville, S. C.

ACME STEEL CO., THE, 2840 Archer Ave., Chicago, Ill. Sou. Sales Offices: Georgia—Atlanta, Acme Steel Co. of Ga., Inc., 603 Stewart Ave.; F. H. Webb, Mgr., 1281 Oxford Rd., N. E.; C. A. Carrell, 2135 Cascade Rd., S. W. North Carolina—Charlotte, F. G. German, 1617 Beverly Drive, South Carolina—Greenville, G. R. Easley, 107 Manly St. Tennessee—Signal Mountain, W. G. Polley, 802 James Blvd. Florida—Orlando, R. N. Sillars, 605 E. Gore Ave. Louisiana—New Orleans, J. C. Brill, 518 Gravier St.

AKRON BELTING CO., Akron, O. Sou. Branches, 914 Johnston Bldg., Charlotte, N. C.; 905 Woodside Bldg., Greenville, S. C.; 390 S. Second St., Memphis, Tenn.

ALLIS-CHALMERS MFG. CO., Milwaukee, Wis. Sou. Sales Offices: Atlanta, Ga., Healey Bldg., Berrien Moore, Mgr.; Baltimore, Md., Lexington Bldg., A. T. Jacobson, Mgr.; Birmingham, Ala., Webb Crawford Bldg., John J. Greagan, Mgr.; Charlotte, N. C., Johnston Bldg., William Parker, Mgr.; Chattanooga, Tenn., Tennessee Electric Power Bldg., D. S. Kerr, Mgr.; Cincinnati, O., First National Bank Bldg., W. G. May, Mgr.; Dallas, Tex., Santa Fe Bldg., E. W. Burbank, Mgr.; Houston, Tex., Shell Bldg., K. F. Ribble, Mgr.; New Orleans, La., Canal Bank Bldg., F. W. Stevens, Mgr.; Richmond, Va., Electric Bldg., C. L. Crosby, Mgr.; St. Louis, Mo., Railway Exchange Bldg., C. L. Orth, Mgr.; San Antonio, Tex., Frost National Bank Bldg., Earl R. Hurry, Mgr.; Tampa, Fla., 415 Hampton St., H. C. Planagan, Mgr.; Tulsa, Okla., 18 North Guthrie St., D. M. McCargar, Mgr.; Washington, D. C., Southern Bldg., H. C. Hood, Mgr.

ALROSE CHEMICAL CO., Providence, R. I. Sou. Rep., A. M. Burt, 1701 N. Elm St., Greensboro, N. C.

AMERICAN BLOWER CORP., Detroit, Mich. Sou. Offices: Court Square Bldg., Baltimore, Md.; 1211 Commercial Bank Bldg., Charlotte, N. C.; Rooms 716-19 101 Marietta St. Bldg., Atlanta, Ga.; 846 Baronne St., New Orleans, La.; 1005-6 American Bldg., Cincinnati, Ohio; 619 Mercantile Bldg., Dallas, Tex.; 201 Petroleum Bldg., 1314 Texas Ave., Houston, Tex.; 310 Mutual Bldg., Kansas City, Mo.; 620 S. 5th St., Architects & Bldrs. Exhibit Bldg., Louisville, Ky.; 1433 Oliver Bldg., Pittsburgh, Pa.; 7 North 6th St., Richmond, Va.

AMERICAN CASABLANCAS CORP., Johnston Bldg., Charlotte, N. C. Warehouse, 1000 W. Morehead St. F. Casablanecas and J. Casablanecas, Executives; J. Rabasa, Technical Expert.

AMERICAN COOLAIR CORP., Jacksonville, Fla. J. E. Graves, Jr., secretary-treasurer, Factory ventilating engineer, Clark R. Trimble, 205 Cottage Place, Charlotte, N. C.

AMERICAN CYANAMID & CHEMICAL CORP., 30 Rockefeller Plaza, New York City. Sou. Office and Warehouse, 822 W. Morehead St., Charlotte, N. C.; Hugh Puckett, Asst. Sou. Sales Mgr.

AMERICAN ENKA CORP., 271 Church St., New York City. Sou. Rep., R. J. Mebane, Asheville, N. C.

AMERICAN MOISTENING CO., Providence, R. I. Southern plant, Charlotte, N. C.

AMERICAN PAPER TUBE CO., Woonsocket, R. I. Sou. Rep., Ernest F. Culbreath, P. O. Box 11, Charlotte, N. C.

ARMSTRONG CORK PRODUCTS CO. (Textile Division), Lancaster, Pa. Sou. Office, 33 Norwood Place, Greenville, S. C. T. L. Hill.

ARNOLD, HOFFMAN & CO., Inc., Providence, R. I. Frank W. Johnson, Sou. Mgr., Box 1268, Charlotte, N. C. Sou. Reps., Robert E. Buck, Box 904, Greenville, S. C.; Harold T. Buck, 1615 12th St., Columbus, Ga.; W. Chester Cobb, Hotel Russell Erskine, Huntsville, Ala.; D. Floyd Burns, Jr., Box 198, Durham, N. C.

ASHWORTH BROS., Inc., Charlotte, N. C. Sou. Offices, 44-A Norwood Place, Greenville, S. C.; 215 Central Ave., S. W., Atlanta, Ga.; Texas Rep., Textile Supply Co., Dallas, Tex.

ATLANTA HARNESS & REED MFG. CO., Atlanta, Ga. Succeeded by Steel Heddle Mfg. Co., Atlanta Division. (See this company's listing.)

BAHNSON CO., THE, Winston-Salem, N. C. North and South Carolina Rep., S. C. Stimson, Winston-Salem, N. C. Sou. Rep., I. L. Brown, 886 Drewery St., N. E., Atlanta, Ga. Northern Rep., F. S. Frambach, 703 Embree Crescent, Westfield, N. J. Western Rep., D. D. Smith, 906 W. Lovell St., Kalamazoo, Mich.

BANCROFT BELTING CO., Boston, Mass. Sou. Rep., Ernest F. Culbreath, 602 Commercial Bank Bldg., Charlotte, N. C.; Herbert Booth, Claridge Manor Apt., Birmingham, Ala.

BARBER-COLMAN CO., Rockford, Ill. Sou. Office, 31 W. McBee Ave., Greenville, S. C.; J. H. Spencer, Mgr.

CHARLES BOND CO., 617 Arch St., Philadelphia, Pa. Sou. Reps., Harold C. Smith, Greenville, S. C.; Harold C. Smith, Jr., Greenville, S. C.; John C. Turner, P. O. Box 1344, Atlanta, Ga.

BORNE, SCRYMSER CO., 17 Battery Place, New York City. Sou. Mgr., H. L. Siever, P. O. Box 1169, Charlotte, N. C. Sales Reps., W. B. Uhler, 608 Palmetto St., Spartanburg, S. C.; R. C. Young, 1216 Kenilworth Ave., Charlotte, N. C.; John Ferguson, 393 Hill St., LaGrange, Ga.

BROWN CO., DAVID, Lawrence, Mass. Sou. Reps., Ralph Gossett, Woodside Bldg., Greenville, S. C.; William J. Moore, Woodside Bldg., Greenville, S. C.; Belton C. Plowden, Griffin, Ga.; Gastonia Mill Supply Co., Gastonia, N. C.; Russell A. Singleton Co., Inc., Dallas, Tex.

BUTTERWORTH & SONS CO., H. W., Philadelphia, Pa. Sou. Rep., J. H. Zahn, Johnston Bldg., Charlotte, N. C.

CAMPBELL & CO., JOHN, 75 Hudson St., New York City. Sou. Reps., M. L. Kirby, P. O. Box 432, West Point, Ga.; Mike A. Stough, P. O. Box 701, Charlotte, N. C.; A. Max Browning, Hillsboro, N. C.

CAROLINA REFRACTORIES CO., Hartsville, S. C.

CHARLOTTE CHEMICAL LABORATORIES, Inc., Charlotte, N. C.

CHARLOTTE LEATHER BELTING CO., Charlotte, N. C.

CIBA CO., Inc., Greenwich and Morton Sts., New York City. Sou. Offices and Warehouses, Charlotte, N. C.

CLINTON CO., Clinton, Iowa. Luther Knowles, Sou. Agt., Box 127, Telephone 2-2486, Charlotte, N. C. Sou. Reps., Grady Gilbert, Telephone 1132, Concord, N. C.; Clinton Sales Co., Inc., W. T. Smith, 2 Morgan Bldg., Greenville, S. C.; Lee Gilbert, Box 481, Tel. 2913, Spartanburg, S. C.; A. C. Boyd, 1071 Bellevue Drive, N. E., Tel. Hemlock 7055, Atlanta, Ga.; Dana H. Alexander (Mill and Paper Starch Div.), Birmingham, Ala. Stocks carried at Carolina Transfer & Storage Co., Charlotte; Consolidated Brokerage Co., Greenville, S. C.; Atlanta Service Warehouse, Atlanta.

COOLING & AIR CONDITIONING CORP., THE, 101 Marietta St., Atlanta, Ga., J. C. Marlow, Mgr.; 708 Guilford Bldg., Greensboro, N. C., A. B. Wason, Mgr.

CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass. Sou. Plant, Charlotte, N. C.

CUTLER, ROGER W., 141 Milk St., Boston, Mass. Sou. Office, Woodside Bldg., Greenville, S. C. Southern Tape Agent: Byrd Miller, Woodside Bldg., Greenville, S. C. Roll Agents: Dixie Roller Shop, Rockingham, N. C.; A. J. Whittemore & Sons, Burlington, N. C.; Dixie Roll & Cot Co., Macon, Ga.; Morrow Roller Shop, Albemarle, N. C.; Greenville Roll & Leather Co., Greenville, S. C. Take Up Roll Agent: M. Bradford Hodges, Box 752, Atlanta, Ga.

DARY RING TRAVELER CO., Taunton, Mass. Sou. Rep., John E. Humphries, P. O. Box 843, Greenville, S. C.; Chas. L. Ashley, P. O. Box 720, Atlanta, Ga.

DAUGHTRY SHEET METAL CO., Charlotte, N. C.

DENISON MFG. CO., THE, 145 Lyman St., Asheville, N. C. Sou. Rep., L. B. Denison, Genl. Mgr.

DILLARD PAPER CO., Greensboro, N. C., Greenville, S. C., Charlotte, N. C.

DRAKE CORP., Norfolk, Va.

DRAPER CORPORATION, Hopedale, Mass. Sou. Rep., E. N. Darrin, Vice-Pres.; Sou. Offices and Warehouses, 242 Forsyth St., S. W., Atlanta, Ga., W. M. Mitchell; Spartanburg, S. C., Clare H. Draper, Jr.

DU PONT DE NEMOURS & CO., Inc., E. I., Organic Chemicals Dept., Dyestuffs and Fine Chemicals Div., Wilmington, Del. John L. Dabbs, Sou. Sales Mgr.; D. C. Newman, Asst. Sou. Sales Mgr.; J. D. Sandridge, Asst. Sou. Sales Mgr.; E. F. Davidson, Asst. Mgr. Technical. Sou. Warehouses, 414 S. Church St., Charlotte, N. C. Reps., C. H. Asbury, H. B. Constable, J. F. Franklin, J. F. Gardner, L. E. Green, M. D. Haney, W. R. Ivey, S. A. Pettus, A. W. Picken, N. R. Vieira, Charlotte Office; J. T. McGregor, Jr., James A. Kidd, 1035 Jefferson Standard Bldg., Greensboro, N. C.; John L. Dabbs, Jr., G. H. Boyd, 804 Provident Bldg., Chattanooga, Tenn.; R. D. Sloan, T. R. Johnson, Greenville, S. C.; W. F. Crayton, Adam Fisher, Jr., W. A. Howard, Columbus, Ga.; J. A. Franklin, Augusta, Ga.; Tom Taylor, Newnan, Ga.

DU PONT DE NEMOURS & CO., E. I., Grasselli Chemicals Dept., Wilmington, Del. Howard J. Smith, Dist. Sales Mgr., W. F. Hummel, Salesman, 414 S. Church St., Charlotte, N. C.

DU PONT DE NEMOURS & CO., E. I., Rayon Div., F. H. Coker, Dist. Sales Mgr., 414 S. Church St., Charlotte, N. C. Acetate Div., J. J. Cook, Dist. Sales Mgr., 414 S. Church St., Charlotte, N. C.

DU PONT DE NEMOURS & CO., Inc., E. I., The R. & H. Chemicals Dept., Wilmington, Del. R. M. Levy, Dist. Sales Mgr., 302 W. First St., Charlotte, N. C.

EATON, PAUL B., 213 Johnston Bldg., Charlotte, N. C.

ENGINEERING SALES CO., 217 Builders' Bldg., Charlotte, N. C., S. R. and V. G. Brookshire.

FOSTER MACHINE CO., Westfield, Mass. Sou. Office, 813 Johnston Bldg., Charlotte, N. C.

FRANKLIN MACHINE CO., 44 Cross St., Providence, R. I.

FRANKLIN PROCESS CO., Providence, R. I. Sou. Plants, Greenville, S. C., and Chattanooga, Tenn.

FREDERICK IRON & STEEL CO., THE, Frederick, Md. Sou. Reps., R. L. Selby, Piedmont Engineering Co., Charlotte, N. C.; Boiler Equipment Service Co., Atlanta, Ga.

GENERAL COAL CO., 1215 Johnston Bldg., Charlotte, N. C. C. L. Rowe, Sou. Sales Mgr. Reps., J. W. Lassiter, F. W. Reagan, E. H. Chapman, Charlotte, N. C.; J. C. Borden, Grace American Bldg., Richmond, Va.; D. H. R. Wigg, Wainwright Bldg., Norfolk, Va.; W. A. Counts, Law & Commerce Bldg., Bluefield, W. Va.; H. C. Moshell, Peoples Bank Bldg., Charleston, S. C.; P. W. Black, Greenville, S. C.; H. G. Thompson, Bristol, Tenn.

GENERAL DYESTUFF CORP., 435 Hudson St., New York City. Sou. Office and Warehouse, 1101 S. Blvd., Charlotte, N. C. B. A. Stigen, Mgr.

GENERAL ELECTRIC CO., Schenectady, N. Y. Sou. Sales Offices and Warehouses, Atlanta, Ga., E. H. Ginn, Dist. Mgr.; Charleston, W. Va., W. L. Alston, Mgr.; Charlotte, N. C., E. P. Coles, Mgr.; Dallas, Tex., L. T. Blaisdell, Dist. Mgr.; Houston, Tex., E. M. Wise, W. O'Hara, Mgrs.; Oklahoma City, Okla., F. D. Hathway, B. F. Dunlap, Mgrs. Sou. Sales Offices, Birmingham, Ala., R. T. Brooke, Mgr.; Chattanooga, Tenn., W. O. McKinney, Mgr.; Ft. Worth, Tex., A. H. Keen, Mgr.; Knoxville, Tenn., A. B. Cox, Mgr.; Louisville, Ky., E. B. Myrick, Mgr.; Memphis, Tenn., G. O. McFarlane, Mgr.; Nashville, Tenn., J. H. Barksdale, Mgr.; New Orleans, La., B. Willard, Mgr.; Richmond, Va., J. W. Hicklin, Mgr.; San Antonio, Tex., I. A. Uhr, Mgr.; Sou. Service Shops, Atlanta, Ga.; W. J. Selbert, Mgr.; Dallas, Tex., W. F. Kaston, Mgr.; Houston, Tex., F. C. Bunker, Mgr.

GENERAL ELECTRIC VAPOR LAMP CO., Hoboken, N. J. Sou. Reps., Frank E. Keener, 187 Spring St., N. W., Atlanta, Ga.; C. N. Knapp, Commercial Bank Bldg., Charlotte, N. C.

GOODYEAR TIRE & RUBBER CO., Inc., THE, Akron, O. Sou. Offices and Reps., W. C. Killick, 209-11 E. 7th St., Charlotte, N. C.; W. Reynolds Barker, 141 N. Myrtle Ave., Jacksonville, Fla.; C. O. Roome, 500-6 N. Carrollton Ave., New Orleans, La.; J. H. Nelberding, 1128 Union Ave., Memphis, Tenn.; W. R. Burtie, 3rd and Guthrie, Louisville, Ky.; R. G. Abbott, Allen and Broad Sts., Richmond, Va.; E. A. Filley and R. B. Warren, 214 Spring St., N. W., Atlanta, Ga.; J. L. Sinclair, 700 S. 21st St., Birmingham, Ala.; Atlanta Belting Co., Atlanta, Ga.; Battey Machinery Co., Rome, Ga.; Bluefield Supply Co., Bluefield, W. Va.; Gastonia Mill Supply Co., Gastonia, N. C.; Knoxville Belting & Supply Co., Knoxville, Tenn.; Laurel Mach. & Fdry. Co., Laurel, Miss.; Orlando Armature Works, Orlando, Fla.; McComb Supply Co., Harlan, Ky., and Jellico, Tenn.; Mills & Lupton Supply Co., Chattanooga, Tenn.; Mississippi Fdry. & Mach. Co., Jackson, Miss.; Moore-Handley Hdw. Co., Birmingham, Ala.; Morgan's, Inc., Savannah, Ga.; Mulberry Supply Co., Mulberry, Fla.; C. T. Patterson Co., Inc., New Orleans, La.; Pensacola Tool & Supply Corp., Pensacola, Fla.; I. W. Phillips, Tampa, Fla.; Pye-Barker Supply Co., Atlanta, Ga.; Ralley Millam Hdw. Co., Miami, Fla.; Sullivan Hdw. Co., Anderson, S. C.; Superior Iron Works & Supply Co., Shreveport, La.; Taylor Iron Works & Supply Co., Macon, Ga.; Textile Mill Supply Co., Charlotte, N. C.; Tidewater Supply Co., Norfolk, Va.; Columbia, S. C.; Asheville, N. C.

GREENVILLE BELTING CO., Greenville, S. C.

GULF OIL CORPORATION OF PA., Successor to GULF REFINING CO., Pittsburgh, Pa. Division Sales Offices: Atlanta, Ga.—A. M. Wright, Greenville, S. C.; T. C. Scaffie, Spartanburg, S. C.; J. H. Hooten, Gastonia, N. C.; R. G. Burkhalter, Charlotte, N. C.; G. P. King, Jr., Augusta, Ga.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; New Orleans, La.; Houston, Tex.; Louisville, Ky.; Toledo, O.

HART PRODUCTS CORP., 1440 Broadway, New York City. Sou. Mgr., Charles C. Clark, Box 274, Spartanburg, S. C. Sales Reps., Tally W. Piper, Box 534, Fairfax, Ala.; W. R. Sargent, Greenville, S. C.

H & B AMERICAN MACHINE CO., Pawtucket, R. I. Sou. Offices, 815 The Citizens and Southern National Bank Bldg., Atlanta, Ga.; J. C. Martin, Agt.; Johnston Bldg., Charlotte, N. C.; Elmer J. McVey, Mgr.; Fritz Swefel, Fred Dickinson, Jim Miller, sales and service representatives.

HERCULES POWDER COMPANY, Wilmington, Del. Distributors—Burkart-Schler Chemical Co., Chattanooga, Tenn.; Hercules Powder Co., Paper Makers Chemical Div., Atlanta, Ga. Warehouses—American Storage and Warehouse Co., 505-513 Cedar St., Charlotte, N. C.; Textile Warehouse Co., 511-513 Rhett St., Greenville, S. C.; South Atlantic Bonded Warehouse Corp., Washington and Macon Sts., Greensboro, N. C.

HERMAS MACHINE CO., Hawthorne, N. J. Sou. Rep., Carolina Specialty Co., P. O. Box 520, Charlotte, N. C.

HOLBROOK RAWHIDE CO., Providence, R. I. Sou. Distributors, Odell Mill Supply Co., Greensboro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C., and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

HOUGHTON & CO., E. F., 240 W. Somerset St., Philadelphia, Pa. Sou. Sales Mgr., W. H. Brinkley, 1410 First National Bank Bldg., Charlotte, N. C. Sou. Reps., Walter Andrews, 1306 Court Square Bldg., Baltimore, Md.; C. L. Elbert, 1306 Court Square Bldg., Baltimore, Md.; C. B. Kinney, 1410 First National Bank Bldg., Charlotte, N. C.; D. O. Wylie, 1410 First National Bank Bldg., Charlotte, N. C.; J. J. Kelly, 2855 Peachtree, Apt. No. 45, Atlanta, Ga.; James A. Brittain, 1526 Sutherland Place, Homewood, Birmingham, Ala.; J. W. Byrnes, 333 St. Charles St., New Orleans, La.; B. E. Dodd, 333 St. Charles St., New Orleans, La.

HOUGHTON WOOL CO., 253 Summer St., Boston, Mass. Sou. Rep., Jas. E. Taylor, P. O. Box 2084, Phone 3-3692, Charlotte, N. C.

HOWARD BROS. MFG. CO., Worcester, Mass. Sou. Office and Plant, 244 Forsyth St., S. W., Atlanta, Ga.; Guy L. Melchor, Mgr. S. W. Rep., Russell A. Singleton, Mail Route 5, Dallas, Tex.

HUBINGER CO., THE, Keokuk, Iowa. Southeastern Sales Rep., Chester M. Goodyear, 1234 Piedmont Ave., N.E., Atlanta, Ga. Warehouse stocks at Greenville, S. C., Winston-Salem, N. C., Atlanta, Ga.

KENNEDY CO., W. A., 814 S. Tryon St., Charlotte, N. C. W. A. Kennedy, Pres.

JACOBS MFG. CO., E. H., Danielson, Conn. Sou. Rep., W. Irving Bullard, Pres., Charlotte, N. C. Mgr. Sou. Service Dept., S. B. Henderson, Greer, S. C.; Dan B. Griffin, Southern Sales Rep., E. H. Jacobs Mfg. Co. Sou. Distributors, Odell Mill Supply Co., Greensboro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Shelby Supply Co., Shelby, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Industrial Supply Co., Clinton, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C., and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

JACKSON LUMBER CO., Lockhart, Ala.

KEEVER STARCH CO., Columbus, O. Sou. Office, 1200 Woodside Bldg., Greenville, S. C.; Daniel H. Wallace, Sou. Agt. Sou. Warehouses, Greenville, S. C., Charlotte, N. C. Sou. Reps., Claude B. Iler, P. O. Box 1383, Greenville, S. C.; Luke J. Castile, 515 N. Church St., Charlotte, N. C.; F. M. Wallace, 1115 S. 26th St., Birmingham, Ala.

LAUREL SOAP MFG. CO., Inc., 2607 E. Tloga St., Philadelphia, Pa. Sou. Rep., A. Henry Gaede, P. O. Box 1033, Charlotte, N. C.

McLEOD, INC., WILLIAM, 33 Elm St., Fall River, Mass. Sou. Rep., Edward Smith, Asheboro, N. C.

MAGUIRE & CO., JOHN P., 370 Fourth Ave., New York City. Sou. Rep., Taylor R. Durham, First National Bank Bldg., Charlotte, N. C.

THE MERROW MACHINE CO., 8 Laurel St., Hartford, Conn. E. W. Hollister, P. O. Box 721, Spartanburg, S. C.; R. B. Moreland, P. O. Box 895, Atlanta, Ga.

MOCCASIN BUSHING CO., Chattanooga, Tenn. Sou. Jobbers: Odell Mill Supply Co., Greensboro, N. C.; Shelby Supply Co., Shelby, N. C.; Greenville Textile Supply Co., Greenville, S. C.; M. C. Thurston Co., Richmond, Va.; Ferebee-Johnson Co., Lynchburg, Va.; Knoxville Belting Co., Knoxville, Tenn.; Miss. Foundry & Mch. Co., Jackson, Miss.; Corinth Machine Co., Corinth, Miss.; Industrial Supplies Co., LaGrange, Ga.; Phillips Hdw. & Supply Co., Columbus, Ga.; Macon Supply Co., Macon, Ga.; Owen-Richards Co., Birmingham, Ala.; Matthews-Morse Sales Co., 909 S. Mint St., Charlotte, N. C.

NATIONAL OIL PRODUCTS CO., Inc., Harrison, N. J. Sou. Offices and Plant, Cedartown, Ga. Sou. Reps., D. Dion, Cedartown, Ga.; C. E. Elphick, 100 Buist Ave., Greenville, S. C.; R. B. MacIntyre, care D. G. MacIntyre, Franklinton, N. C.; Paul Starke, 2026 Eaton Place, Baltimore, Md.; G. H. Small, 226 Bolling Road, Atlanta, Ga. Warehouse, Chattanooga, Tenn.

NATIONAL RING TRAVELER CO., 257 W. Exchange St., Providence, R. I. Sou. Office and Warehouse, 131 W. First St., Charlotte, N. C. Sou. Agt., C. D. Taylor, Gaffney, S. C. Sou. Reps., L. E. Taylor, Box 272, Atlanta, Ga.; Otto Pratt, Gaffney, S. C.; H. B. Askew, Box 272, Atlanta, Ga.

NEW ENGLAND BOBBIN & SHUTTLE CO., Nashua, N. H. Sou. Rep., D. C. Ragan, High Point, N. C.

N. Y. & N. J. LUBRICANT CO., 292 Madison Ave., New York City. Sou. Office, 1000 W. Morehead St., Phone 3-7191, Charlotte, N. C., Spartanburg, S. C., Atlanta, Ga., Greenville, S. C.

NORLANDER MACHINE CO., New Bedford, Mass. Sou. Plant, 213 W. Long St., Gastonia, N. C.

NORMA-HOFFMANN BEARINGS CORP., Stamford, Conn. Sou. Rep., E. W. Lawrence, 1841 Plaza, Charlotte, N. C.

ONYX OIL & CHEMICAL CO., Jersey City, N. J. Sou. Rep., Edwin W. Klumph, 2018 Dilworth Road, West, Charlotte, N. C.; Cliff C. Myers, 2131 Charlotte Drive, Charlotte, N. C.

PARKS-CRAMER CO., Plants at Fitchburg, Mass., and Charlotte, N. C. Atlanta Office, Bona Allen Bldg.

PERKINS & SON, Inc., B. F., Holyoke, Mass.

PROVIDENT LIFE & ACCIDENT INS. CO. (Group Accident and Health, and Welfare Plans Div.), Chattanooga, Tenn. Southeastern Div. Office, 203 Commercial Bldg., Gastonia, N. C.

THE PURE OIL CO., Industrial Sales Dept., Southeastern Division Office, 140 Spring St. S. W., Atlanta, Ga., O. T. Clark, Mgr.

RHODE ISLAND TOOL CO., Providence, R. I. Sou. Rep., Henry Anner, Box 1515, Greenville, S. C.

RHOADS, J. E. & SONS, 35 N. Sixth St., Philadelphia, Pa. Sou. Reps., L. H. Schwoebel, 864 W. Fifth St., Winston-Salem, N. C.; J. W. Mitchell, Box 1589, Greenville, S. C.; A. S. Jay, 1600 S. 21st St., Birmingham, Ala.; J. T. Hoffman, 88 Forsyth St., S. W., Atlanta, Ga.; Atlanta Store, C. R. Mitchell, Mgr., 88 Forsyth St., S. W., Phone Walnut 5915, Atlanta, Ga.

ROY & SONS, B. S., Worcester, Mass. Sou. Office, Greenville, S. C., John R. Roy, Representative.

SACO-LOWELL SHOPS, 60 Batterymarch St., Boston, Mass. Sou. Office and Supply Depot, Charlotte, N. C., Walter W. Gayle, Sou. Agent; Atlanta, Ga., John L. Graves and Miles A. Comer, Selling Agents; Greenville, S. C., H. P. Worth, Selling Agent.

SEYDEL CHEMICAL CO., Jersey City, N. J. Sou. Rep., Harold P. Goller, Greenville, S. C.; Alexander W. Anderson, 10 Milton Ave., Edgewood, R. I.

SEYDEL-WOOLLEY & CO., 748 Rice St., N. W., Atlanta, Ga.

SHERWIN-WILLIAMS CO., THE, Cleveland, O. Sou. Warehouses: Richmond, 1315 E. Main St.; Savannah, 655 E. Liberty St.; Charlotte, 222 W. First St.; Spartanburg, 158 E. Main St.; Columbia, 1713 Main St.; Atlanta, 70 Broad St., N. W.; Columbus, 1038 Broadway; Nashville, 711 Church St.; Chattanooga, 826-28 Broad St.; Birmingham, 2016 Third Ave., N.; Montgomery, 33 Commerce St.; Knoxville, 314 S. Gay St. Sou. Reps., E. H. Steger, 222 W. 1st St., Charlotte, N. C.; R. R. O'neil, 158 E. Main St., Spartanburg, S. C.; W. O. Masten, 2308 S. Main St., Winston-Salem, N. C.; T. R. Moore, 509 Westover Ave., Roanoke, Va.; G. N. Jones, 207 Glascock St., Raleigh, N. C.; W. H. Mastbrook, 105 W. Iver St., Greensboro, N. C.; John Limbach, 70 Broad St., N. W., Atlanta, Ga.; D. S. Shimp, 3 Cummins Station, Nashville, Tenn.; O. A. King, Apt. 1, 2400 Barton Ave., Richmond, Va.; James C. Wilkinson, 230 Bay View Blvd., Portsmouth, Va.

SIGNODE STEEL STRAPPING CO., 2600-2620 N. Western Ave., Chicago, Ill. Sou. Warehouses and Offices, Greensboro, N. C., 908 Lakeview St., Phone 6935, O. B. Shelton, Rep.; Atlanta, Ga., 113 Courtland St., S. E. A. S. Stephens, Rep.; New Orleans, La., 700 Tchoupitoulas St., P. E. Odenhahl, Rep.

SOCONY-VACUUM OIL CO., Inc., Southeastern Div. Office, 1602 Baltimore Trust Bldg., Baltimore, Md. Warehouses: Union Storage Warehouse Co., 1009 W. Morehead St., Charlotte, N. C.; Textile Warehouse Co., 511 Rhett St., Greenville, S. C.; South Atlantic Bonded Warehouse Co., Greensboro, N. C.; New South Express Lines, Columbia, S. C.; Terminal Storage Corp., 317 N. 17th St., Richmond, Va.; Taylor Transfer Co., 102 Boush St., Norfolk, Va.

SONOCO PRODUCTS CO., Hartsville, S. C.

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A Community With Its Industries

(Continued from Page 3)

they are one with all other citizens of fair mind and community spirit in working together to foster the American tradition of coöperation between the community and its industries; and to make sure that the few industrial establishments which do not recognize the prior claim of community welfare *not* be allowed to spread the infection of their unsocial practices.

An interesting example came to me the other day of how an industry which is directed in the finest American tradition deals with a less public-spirited neighbor. The head of a certain well-known company who happens to be a good friend of mine was head of a community fund campaign. Only one plant was lacking to give industry a score of one hundred per cent support in the campaign, and this was a branch plant. The manager said he'd have to take up the matter of a contribution with his home office. He did, and the answer was "no."

That answer hurt the community. And it hurt the industry which gave it. My friend's company always had been a large buyer of supplies from this company which said "no." Today my friend is looking for a new source for these supplies. He does not wish to deal with a company which refused to conduct itself in the way that any American citizen regards as *American*.

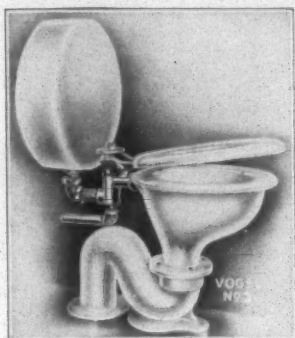
The lesson is one that happily the vast majority of American industry recognizes and lives by. Industry is a part *with* and not apart *from* the community.

They're BUILT to LAST

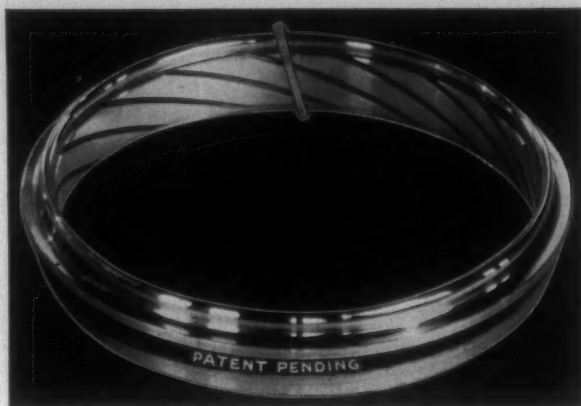
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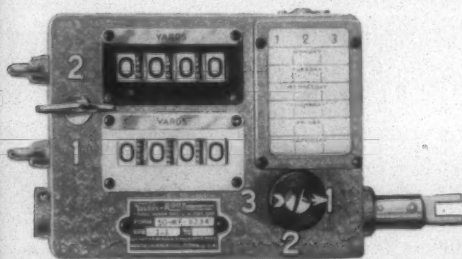
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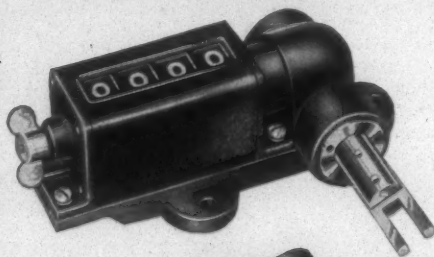
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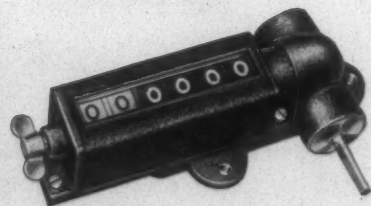
2-Shift Reset Yardage Counter can be furnished to register in yards, tens of yards, or hundreds of yards, when driven from any diameter roll. Totalizer unit extra.



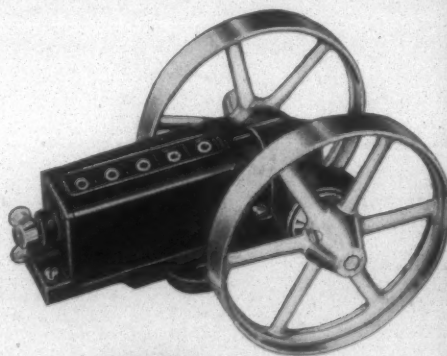
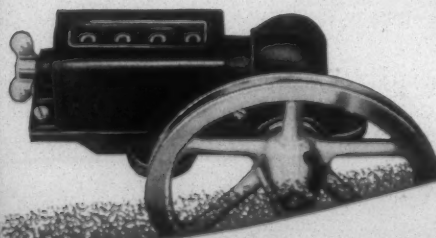
Reset Worm-Driven Measuring Counter registers feet, yards or other unit when driven directly from end of roll.



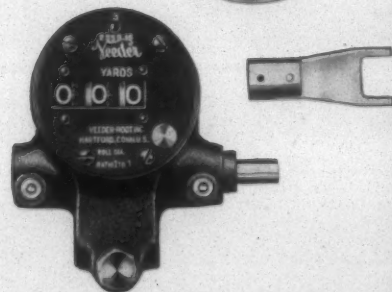
Combined Reset & Totalizing Worm-Driven Measuring Counter is really 2 counters in 1—a reset counter, and a totalizing non-reset counter for measuring in yards, feet, revolutions, units.



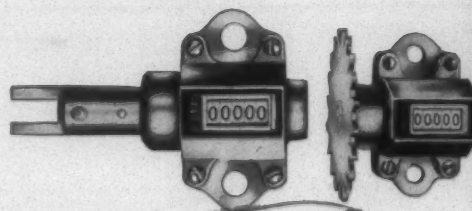
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